

And Engineer

No. 12.

Raising Land by Dredging Out a Canal Most Economical Method—Calculation of Area of Manufacturing Sites and Length of Water Front Required—Land and Water Transportation—Cost and Income

PROPOSED CROSS-SECTION OF PIERS ON NORTH SIDE OF CANAL

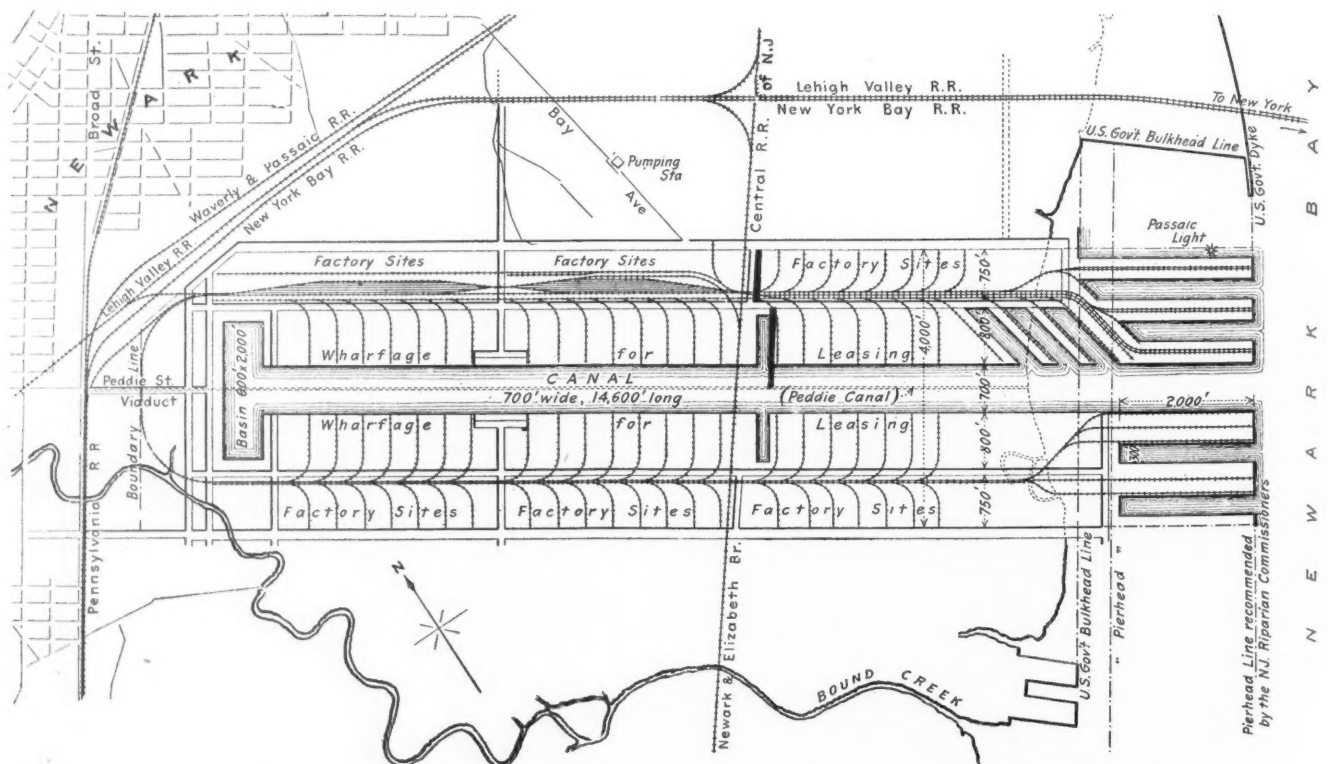
indicate so plainly the desirability of the latter method of improvement that all further plans were considered upon this basis. Additional arguments in favor of the canal were the increased amount of dock room which would be made available thereby and the greater convenience to manufacturers in shipping goods. While this might not be a great advantage to all manufacturers, it was found that property with a water front accessible for shipping brought better prices than that not so located.

To permit this canal to be used by shipping would require the dredging of a channel 16 feet deep from the bay to the mouth of the canal. This would contribute largely to the expense of the undertaking, and for this and other reasons it was thought desirable to shorten this by carrying the pier head line nearer deep water. A line following approximately the contour of six feet depth is recommended, which line has already been recommended by the State Riparian Commission, and the United States Government has already established and constructed bulkheads to practically the same contour. The cubical contents of the tidal prism along the bay front would be lessened only about 12 per cent. by such change, which would be more than compensated by the dredging of the bay to the full depth of 30 feet. This dredging is proposed, and advancing the pier head line would lessen the width of such dredging and the consequent cost, the latter by an amount estimated at \$6,400,000.

In studying the probable future demand for such land and dock facilities it was estimated that by 1950 the population of Newark will have reached 1,500,000 and the manufacturing of the city will have increased in like proportion. At present there is about 30 square

feet of land occupied by manufacturing plants for each inhabitant of the city. On the same basis there would therefore be required forty-five million square feet when the population reaches 1,500,000. The tendency on meadow land, which is held much cheaper than that in the business part of the city, is to occupy more space, and it is assumed that double this area or ninety million square feet would probably be used. The area which it is proposed to develop would contain about forty million square feet of available land exclusive of water surface, and all of it would, therefore, probably be taken up some time before 1950.

It has been found that increase of foreign tonnage is very closely proportional to the growth of the value of manufactures in the United States, this appealing to many of the coast cities. By a method of calculation based upon statistics obtained in other United States cities, the commission concludes that by 1950 the total value of exports and imports in the port of Newark will have a value of \$174,000,000. The committee also investigated what may be called the density of tonnage per lineal foot of wharfage room. A fair uniformity was found in such density, and 150 tons per foot of wharfage was considered conservative for the proposed docks. A study of United States and New York City statistics leads to an estimate of \$60 per ton as the probable value of exports and \$40 per ton as the value of imports; and this, applied to the other calculation, resulted in an estimate of 3,570,000 tons per annum as the total amount of combined exports and imports at Newark in 1950. This assumption makes necessary a total water frontage of approximately 24,000 lineal feet for foreign commerce only; besides which coast-wise, canal and river traffic must be provided for.



PROPOSED PLAN FOR RECLAIMING NEWARK MEADOWS. IMMEDIATE CONSTRUCTION AT RIGHT OF HEAVY LINES

Not less important than the docking facilities are those offered by railroad transportation to the north, south and west. Three railroad systems are contiguous to the territory under consideration, the Pennsylvania, Lehigh Valley and Central Railroad of New Jersey, the last of which now crosses the territory on the surface. Communication with the business part of the city would be made convenient by highways through six main entrances. Trolley service would probably be supplied on one or more of these highways.

Taking up the development more in detail, the commission proposes a general layout which is shown on the accompanying map. First is the canal 700 feet wide, designed for an ultimate depth of 30 feet at low water. In addition to the canal itself, piers and slips are suggested for the bay frontage north of the canal; also two piers and three slips on the north side of the canal to the west of those fronting on the bay, of the design shown on the detail drawing. This layout, it is thought, will accommodate all the probable ocean and coastwise trade that can be induced to come to Newark in a reasonable period. A somewhat similar layout is suggested for the south side of the canal, but its necessity is somewhat far in the future.

To the west of the piers and slips, extending to the westerly end of the canal, it is proposed to erect a plain substantial bulkhead of permanent construction. This can be used for any purpose, either for manufactures or transportation as the necessities of the future may disclose. At the extreme end of the canal a basin is proposed, 2,000 by 600 feet, to facilitate navigation and to be used as a public dock. Two other public docks are also suggested on each side of the canal. Such docks will be of great material advantage, especially the one at the westerly end of the canal, as this will practically be in the heart of the city.

The dock frontage as here outlined will, it is conceived, supply all the water transportation wants of the territory affected, and further elaboration in the line of piers and slips is not of immediate necessity.

For local use there will be two main highways parallel with the canal on each side, one 100 feet wide 800 feet from the canal, and the other 150 feet wide 1,650 feet from the canal, being the main thoroughfare. The latter is to be the boundary of the acquired tract. These highways will give longitudinal connections, and cross streets are designed running north and south. The exact location of all the latter is hard to determine, but certainly they should run to the public docks as outlined.

In estimating the amount of this proposed plan, which could be carried out within the suggested expenditure of one million dollars, the commission considers that, whatever the amount of plan carried out, there would be certain fixed expenses as follows:

Land	\$300,000
Dredging, approximately from bay channel to shore line	152,000
Temporary bridge over Central Railroad.....	16,000
Digging open ditch outlet for low level sewer.....	6,000
Improving Bay avenue	35,000
Engineering and contingencies.....	70,000
Total	\$579,000

This would leave \$421,000 for use in the construction of canal and bulkhead. They propose excavating by hydraulic pumps one-half of the width of the canal to a depth of 22 feet at low water and filling the abutting front to the north to the extreme 2,000-foot limit of the right of way. They estimate that this excavation would cost \$60 per lineal foot and a permanent bulkhead \$65, or a total of \$125 per foot of canal. This would permit the construction of approximately 3,400 lineal feet of canal and dock. They express the hope that the United States Government can be persuaded to dredge the outer channel at its own expense, in which case about 4,000 lineal feet of canal and dock could be constructed. With this amount of frontage available the commission believes that in a few years sufficient revenue will be derived therefrom by the city to make it possible and desirable to further extend the improvements.

In connection with the general improvement it is proposed to extend Bay Avenue from its present terminus at the pumping station to the canal, with a temporary trestle crossing over the New Jersey Central Railroad, the paving to be given a width of 20 feet. It will also be necessary to construct a ditch for carrying the sewage from the pumping station to the bay, as the discharge of this into the canal would undoubtedly be an intolerable nuisance. No complete plan for the disposal of the sewage has been considered, however, because of the fact that the Passaic Valley trunk is now under consideration by Newark and the other cities on the Passaic River and its construction, if decided upon, would play an important part in such plan.

WATER METERS AT MINNEAPOLIS

MINNEAPOLIS, Minn., in the three years from January 1, 1905, to January 1, 1908, has increased the number of meters in service from 11,044 to 22,660. At the latter date there were less than 8,000 unmetered services in the city, most of them furnishing very small consumers and over 800 of them being used for lawn sprinkling in the summer season only. It is the policy of the department to require meters to be placed on these connections wherever a waste of water is found or new fixtures are added. Meters are also required on all new connections whenever the annual charge for water exceeds \$4 on the flat rate plan.

The average amount collected from unmetered services is a little over \$4 each, while the average from the metered water consumers is over \$11 each. The effect of installing meters is indicated by the fact that between 1903 and 1908 more than 57 miles of water mains and 7,000 consumers were added, but the total consumption meantime decreased from 7,467,840,050 gallons to 6,420,027,030 gallons. The cost of pumping last year was \$9.15 per million gallons. The per capita daily consumption was 58.6 gallons. During the year 104 meters were condemned as being no longer fit for service and 1,363 were repaired. The meters making the best showing, on the basis of percentage condemned, were the Nash, Keystone and Trident.

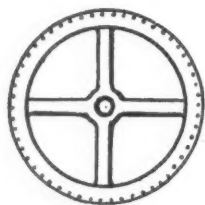
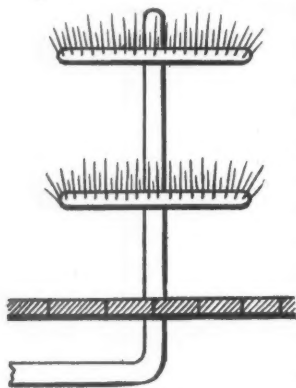
GARBAGE DISPOSAL AT McKEESPORT

Municipal Incinerating Plant—Garbage Collection by Private Contractors—Unemptied Cans Carried to Plant
—Recent Improvements in Furnace

McKEESPORT, Pa., handles the matter of disposing of its garbage in a manner somewhat different from that employed by most cities. The municipality owns and operates an incinerating plant and charges a certain amount for disposing of the material, but the collection of the garbage is left in the hands of private contractors. There are about ten of these, who operate under a license from the city and must comply with rules laid down by the Health Department, which has supervision of their work.

All garbage is collected in 16-gallon covered cans, the usual price for removal being 15 cents per single can, or 25 cents for two cans. Each collection wagon carries about thirty of these cans, the cans and their contents being removed without emptying. After the cans have been emptied at the plant they must be thoroughly sterilized by hot water before being returned.

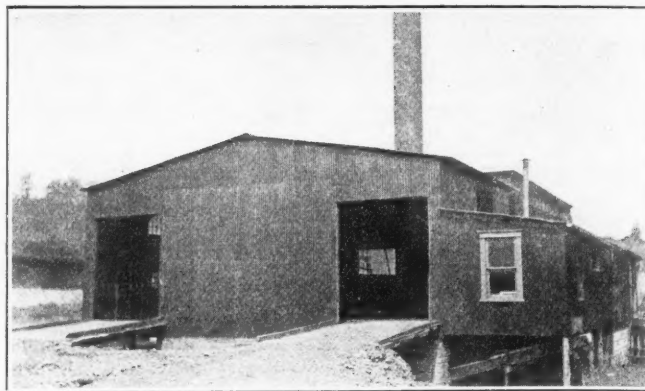
Chief Health Officer F. W. Hooper has devised a very satisfactory method of doing this. Two perforated rings of pipe are connected to an upright pipe, one being placed about twelve inches vertically above the other. Hot water is applied to these from a tank connected to the furnace. The cans are placed inverted over this contrivance and are thoroughly cleaned thereby; the idea being practically the same as that employed for cleaning glasses at soda water fountains.



CAN WASHER

Recent improvements have been made in the plant by the installation of a furnace designed by W. K. Herbert, of McKeesport. Complete details of this are not yet available, but in general the garbage is to be placed first in what is called a dry chamber over the furnace proper. Here much of the water is drained off and the rest is driven off by the heat of the furnace. After the material is thoroughly dried it drops on to the fire grate where it burns readily.

To prevent the escape of odors from the stack all the gases from the burning garbage pass through a brick checker work which is heated either by the gases from the garbage or by a secondary fire. After leaving this, the gases pass through a spray of hot water which throws down any solid particles which they may carry. When visited by our representative there was no odor noticeable in any direction outside of the plant. The ash showed no unburned particles.



BUILDING OF MCKEESPORT INCINERATOR

The plant was recently remodeled and it is stated that 25 per cent. more garbage is now being burned than formerly, with two-thirds the coal consumption. The furnace is disposing of about thirty tons a day and is operated by two men. The cost of the plant was approximately \$6,000.

DEATHS FROM TYPHOID IN 1907

Total Number and Rate per 100,000 Population in the Forty-two Largest Cities of the United States

Table Prepared for Cleveland, C., Board of Public Service

PLACE	Population, Census Estimate June 1, 1907	Total Typhoid Deaths During 1907	Typhoid Deaths per 100,000 Population
Boston, Mass.	609,175	24	3.939
Providence, R. I.	207,850	15	7.210
Fall River, Mass.	106,121	9	8.480
St. Joseph, Mo.	120,504	11	9.128
Paterson, N. J.	114,072	11	9.643
Syracuse, N. Y.	120,631	14	11.605
Jersey City, N. J.	243,205	31	12.740
Worcester, Mass.	132,020	18	13.634
St. Louis, Mo.	661,666	102	15.415
Rochester, N. Y.	189,384	30	15.840
St. Paul, Minn.	210,606	35	16.610
New York, N. Y.	4,225,681	740	17.519
Cleveland, O.	475,864	84	17.652
Chicago, Ill.	2,107,620	376	17.840
Newark, N. J.	295,979	69	23.310
Omaha, Neb.	127,768	31	24.262
Milwaukee, Wis.	322,513	84	26.350
Minneapolis, Minn.	285,676	77	26.950
Detroit, Mich.	367,494	100	27.211
Indianapolis, Ind.	227,608	62	27.220
Dayton, O.	103,248	29	28.097
New Haven, Conn.	123,427	35	28.356
Buffalo, N. Y.	386,724	113	29.219
Grand Rapids, Mich.	101,832	32	31.424
Portland, Ore.	112,757	36	31.927
Memphis, Tenn.	128,799	43	33.385
Toledo, O.	164,673	56	34.006
Columbus, O.	148,722	56	37.654
Washington, D. C.	312,548	114	36.470
Kansas City, Mo.	185,479	71	38.279
Baltimore, Md.	561,120	230	40.989
Richmond, Va.	106,227	47	44.245
Cincinnati, O.	347,123	157	45.228
New Orleans, La.	318,652	179	56.170
Denver, Col.	153,522	89	57.907
Philadelphia, Pa.	1,466,408	889	60.624
Louisville, Ky.	229,599	153	66.640
Scranton, Pa.	121,343	83	68.401
Nashville, Tenn.	105,278	83	78.838
Atlanta, Ga.	107,265	86	80.175
Allegheny, Pa.	147,632	135	91.443
Pittsburg, Pa.	383,895	505	131.546

SUBWAY MANHOLES

IN the Auburn, N. Y., wire conduit system, which was described in our issue of October 16, 1907, the wires for both power and telephone service are placed in ducts which are laid side by side in the same trench, and the wires carrying both high and low tension consequently come into the same manhole. The manholes constructed in Auburn, like those in most other systems, were originally built round or barrel-shaped, and when wires from either side were required to be carried to the opposite side of the street they were necessarily carried across the manhole, making high and low tension wires in the same compartment liable to come into contact with each other, and to cause serious accidents to the employees of telephone lines who are not habitually accustomed to guarding against fatally high tensions. To avoid this danger, City Engineer W. Thomas Wooley has designed and constructed a manhole, which he believes to be original with himself, which is divided into two compartments by a wall. The construction of this manhole is plainly indicated on the plan and photograph. A 5 ft. x 5 ft. copper plate



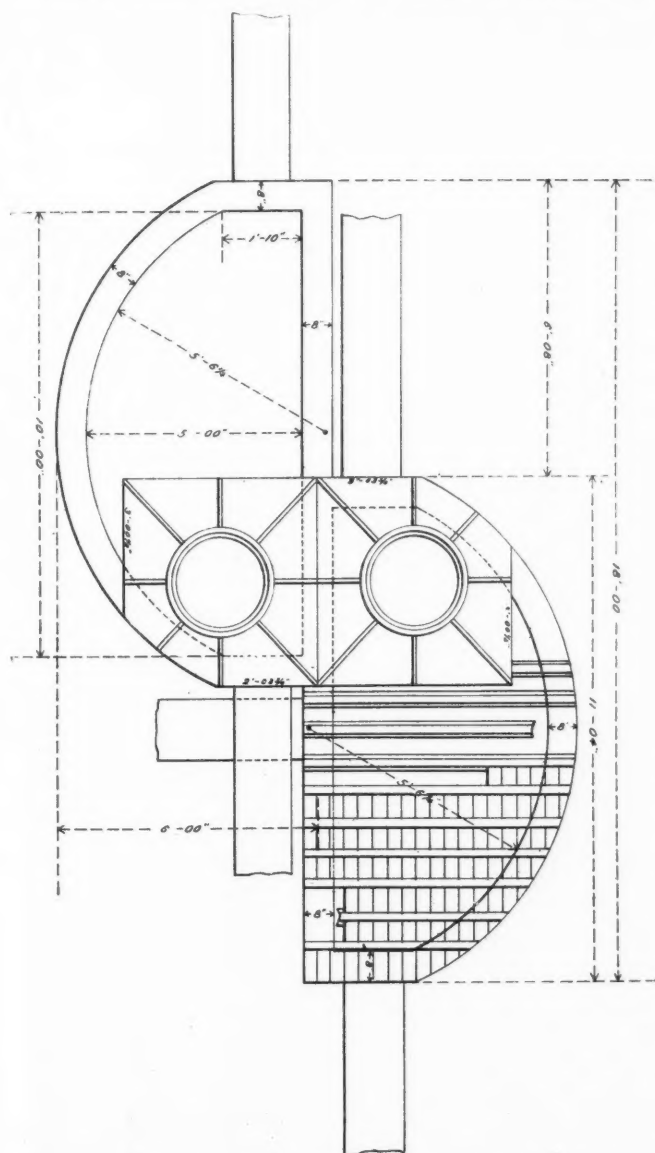
SUBWAY MANHOLE READY FOR ROOF

is placed in the foundation of the manhole to ground all wires. The expense of building this manhole, including about 80 feet of 5-inch drain, was \$200 complete.

STATE AID IN SEWAGE DISPOSAL

At the convention last month of the League of Third Class Cities of Pennsylvania, the subject of sewage disposal occupied a considerable part of the time and interest of the delegates. This was but natural, as the State Board of Health had notified a large number of the cities represented that they would be required at an early date to modify their sewerage systems and treat the sewage before discharging it into the streams of the State. The phase of the subject which appeared to be considered most troublesome was the financial one. It was pointed out by some of the speakers that compulsory construction of sewage disposal plants would not only work great hardship in many cities but would even be the means of bankrupting some. For this reason it was decided that assistance should be requested from the State in this matter, and, as a result of this discussion, a bill will be presented to the next Legislature with this end in view.

In speaking on this question, F. H. Snow, Chief Engineer of the State Department of Health, who represented Dr. Samuel Dixon at the convention, stated that the Department of Health does not intend to work any hardships on the municipalities, and in every instance where a decree has been issued the financial condition of the town has been considered and special instructions given to govern the case. It is the aim of the department to so direct the construction of the disposal plants that the municipalities may not waste any of the money expended for this purpose but shall obtain full value in the shape of results. He appeared to favor State aid of the cities, which he considered as logical as State aid in the construction of good roads; which aid Pennsylvania, like many other States, is now offering to its cities and towns.



PLAN OF SUBWAY MANHOLE, AUBURN, N. Y.
Showing T-Rail Roof Girders, Brick Roof and Manhole Castings

DUST LAYING AND PERMANENT SURFACING

Result of Recent Experiments on Roads in Chicago Parks—Calcium and Sodium Chlorides, Oil Emulsions, Asphalt and Tar Used in Various Ways—All Unprotected Macadam Unsatisfactory

By M. H. WEST, Superintendent of Lincoln Park, Chicago, Ill.

Paper read at Convention of American Association of Park Superintendents

WITH the idea of so constructing macadam roads that they would be able to withstand the onslaughts of motors without resorting to the use of asphaltic binders, a number of experiments have been conducted on the Lincoln Park system during the last three years. Stone of various kinds and sizes have been employed, laid and rolled in various ways, and top dressed with different kinds of screenings and sand.

Without going into the details of the failures and partial success, I would say that the best results in this direction were achieved by the following method:

The road to be resurfaced was first scarified and reshaped, after which a layer of three-inch limestone macadam was spread upon the surface and rolled thoroughly, while fine limestone screenings were washed into the interstices. The road was then allowed to dry out, after which torpedo sand or one-quarter-inch screenings, with the fine part removed, were spread over the road, and rolled lightly with a six-ton roller. The theory of this method was that the shifting coarse sand or screenings would give off little or no dust even when dry, while at the same time the fine limestone binder with which the voids of the road had been filled would be protected. The large size of the stone on the other hand would form an anchorage sufficient to resist the action of automobiles.

As a matter of fact, this particular piece of road, of which about one mile was laid, came out after a year's hard usage in even better condition than many pieces of road with protected surfaces; while macadam, laid in the ordinary way, using one and one-half inch stone and binding in the usual manner, barely remained in place long enough to allow the road crew to get out of sight. By frequent and judicious sprinkling, applying only enough water to lay the dust and keep the pavement moist, and by keeping the coarse material worked back into the road from the gutters, where it has a tendency to collect, such a road may give excellent results where not subjected to heavy motor traffic in early spring. It is, however, during the alternate freezes and thaws of this season of the year that extreme havoc is wrought by heavy and fast-moving cars. Small depressions in the road become filled with water, which softens and loosens the surrounding material, enabling the next car to enlarge the depression until by the time the road gangs start out in the spring the boulevards present a badly torn and dilapidated aspect. It is possible that in large cities, especially near manufacturing plants, the presence of carbonic acid gas in the air tends to have a solvent effect on macadam, especially when limestone is employed.

By closely watching the effects on road surfaces,

caused by various non-slipping tire devices used by motorists to prevent injury to themselves and others on treacherous pavements, I have come to the belief that too much stress has been laid on the damage done to road surfaces by chains, spuds, etc. Assuming that the damage is caused by the release of a vacuum formed by a flattened tire under great weight, and by the slipping of the tire under the great tractive force exerted by the rear wheels, it is obvious that any device which would tend to prevent this vacuum, or to prevent the shearing stress from being exerted on the surface, would help in a degree to maintain the road, rather than the reverse. However, these effects are exerted to a more or less degree even when chains are employed, and I mention this point only to observe that it does not seem justifiable to enact rules prohibiting the use of devices by which the safety of individuals is guarded, when by so doing only a questionable harm to public property is averted.

Finding that our experiments in laying unprotected macadam proved on the whole unsatisfactory, inasmuch as it was impossible to make any particular piece of pavement remain in condition more than one year, we abandoned the project, and returned to the method of treating the road surfaces with various materials in order to lay the dust at night, as well as during the day, and to give the road surfaces resisting qualities other than that due to the natural binding properties of the stone.

TESTS IN DUST LAYING

Calcium chloride, as well as sodium chloride, has been given a fair trial, but neither of these chemicals has demonstrated its ability to more than lay the dust at a cost slightly under that of sprinkling with water, whereas no beneficial effects relative to the lasting qualities of the road have been shown.

Careful experiments have been carried on with the use of oils, both of asphaltic and paraffin bases, and ranging from fifteen to twenty-seven degrees specific gravity, applied both hot and cold upon pavements constructed in various ways and of different types of rock. Various oils, asphalts and tars have been made into solutions or emulsions with water by chemical and mechanical means, and to some extent the various patented fluids offered by the trade for the suppression of dust have been tested. Up to date the most satisfactory and economical surface treatment employed has been that of oil emulsions. Considerable experimentation was necessary before the proper formula was adopted. At present we have in the neighborhood of 200,000 square yards of surface treated with emulsions at a cost of about one-tenth that of sprinkling with water.

The roadways are kept absolutely dustless at all hours of the day. No offensive odor can be detected and the roads are open for traffic continually. The roads are not made slippery under ordinary conditions, and the treatment is popular with both drivers and property owners. Last season some trouble was experienced by the drying out of the stone, due to a watershed caused by a thin asphaltic film on the surface. This film, when once broken, quickly raveled away, allowing the stone to pick up. This year little trouble has been experienced on this account, due to the use of a different method of manufacture and of applying the material. A larger percentage of light oil is used and after three applications of the emulsion a scout wagon is sent over the road, sprinkling only the weak looking places. In this way comparatively little oil is used and one wagon is capable of covering a large amount of territory.

The emulsion is made in a specially prepared plant, fitted out with a series of tanks connected with each other, and with a medium sized steam pump. The oils are mixed in the proportion of one part residuum of about nineteen degrees specific gravity with three parts paraffin base fuel oil. One part of the mixed oils is then incorporated with nine parts of hot water, to which naphtha soap is added, in the proportion of fifteen pounds to five hundred gallons of water. Roads treated with five applications of emulsion came through the winter in good condition, with the exception of some of the main boulevards, which were subjected to unusually heavy automobile traffic. During the early spring a number of heavy snow storms occurred and the automobiles, taking the beaten track, rapidly cut through the surface scattering the macadam in all directions. In some cases it was only necessary this spring to repair the four parallel tracks to put the road once more in condition. In using heavy residuum oils from California, Texas and Kansas on the road surfaces, the best results have been obtained by first scarifying the road and, after shaping, rolling thoroughly with a heavy roller, at the same time, applying water. No binder is used other than that found in the old road material. After drying, the surface presents a rough but firm appearance, which affords excellent penetration to the binding fluid. The hot asphalts are then applied by driving three or four tank wagons abreast, with the outlet valves partially open. Men follow behind with road brooms, spread the material and brush it into the interstices. A layer of torpedo sand or screenings is then applied and rolled thoroughly. In applying tar it was found more expedient to draw the material from the heating wagons into ordinary five-gallon sprinkling cans, the perforations in the nozzles having been previously enlarged.

Resurfacing of this kind can be carried on at a cost of from seven cents to fifteen cents per square yard, assuming the cost of oil or tar to be from four cents to ten cents per gallon and where no stone has to be added to the roadbed. Roads treated in this manner can be counted on to give fairly good satisfaction under extreme wear for twelve to eighteen months. Inas-

much as no water sprinkling is necessary, the cost of maintenance per year is considerably less than when the driveways were sprinkled with water, and when patching of the holes had to be continually resorted to. When a surface of this character begins to show wear, it is best to apply another coat of material before the holes appear in large numbers. When tar is used, especially of a high melting point, considerable care must be exercised in cleaning the old pavement and thoroughly rolling and dressing the new layer while hot, in order to prevent peeling. The patching of holes in a surface-treated road is usually unsatisfactory, and where the pavement is badly worn it is better, as a rule, to scarify and resurface as before.

By following this method of maintenance, however, a large amount of machinery is of necessity kept upon the boulevards during a season when it is most objectionable and thereby causes considerable and well-founded criticism by citizens and tax payers. While this treatment is undoubtedly the best and perhaps the only practical one which can be carried on in suburban parks, which are used infrequently during the winter, for a metropolitan park system, which has miles of boulevards subject to well-nigh constant traffic during the winter and summer months alike, there seems but one solution of the question and that is by the adoption of permanent pavements.

PERMANENT PAVEMENTS

Inasmuch as the sole object of park systems is for pleasure, recreation and comfort, the boulevards should be made as conducive to these requirements as any other part of the system. If the macadam road must go, consequent to modern uses and conditions, its substitute should embody as many of its good qualities as possible. Although there is no question as to the permanency of the motor, either in its present or an improved form, yet the continued fluctuation in the popularity of driving makes it reasonable to believe that the horse will never be entirely superseded by any mechanical contrivance; therefore, a pavement should be designed to meet the requirements of the horse, as well as that of the motor. In this connection, nearly all of the standard pavements fall short, and it is toward the production of one or more ideal types that some engineers and park men are now working. Such a pavement should present an easy riding, malleable and slightly elastic surface of a color which will be restful to the eyes, and which will not draw the heat as do the black asphalt pavements. It should emit no disagreeable odor, should not crack or chip in cold weather, nor become sticky or wavy under summer use. It must be easily cleaned, sanitary and dustless. It should present a surface rough enough to prevent skidding or slipping, yet it should be sufficiently smooth to present a good appearance and to cause no vibration while being traversed.

Inasmuch as nearly all park systems have at present well-constructed macadam roads, which may serve as foundations, it is but necessary to secure a wearing coat of from one inch to two inches in thickness which will

be able to withstand traffic for several years. To secure such a wearing coat, which shall embody the qualities mentioned, is now the object of some experimentation. At present the principal binding materials available are the various forms of tar and asphalt—the latter being by far the most important, and containing the two principal components—*asphaltine* and *petroline*. In most forms of asphalt pavements an excessive amount of *asphaltine* is used, with the result that the pavement is hard and resistant. *Petroline*, which may be said to be the life of asphalt and which gives to it its elasticity and cementitious properties, can be used to advantage in larger proportions in park pavements. The mixing of coal tar with asphalt is resorted to in some cases, and probably is not detrimental if used in small quantities. Its low range of ductility and its tendency to become brittle, due to the loss of its volatile oils, however, should limit its use.

Experimental roads are now being constructed by first obtaining a binder melting at from 160 to 220 degrees Fahrenheit, and which seems to possess the qualities demanded. This binder is incorporated with the road metal in various ways. In one instance it was heated up to 315 degrees, and poured into the interstices of the *macadam* composed of limestone three inches in diameter after it had been thoroughly compacted by rolling. Before the binder could have a chance to cool, heated sand was spread upon the surface and rolled. One application of oil emulsion was then made to the surface, in order to soften up a part of the binder so that it would work through the sand finish. Two pieces of road constructed in this way are now presenting an unusually good appearance. In another case the binder is being mixed by machinery with carefully graded road material ranging from fine sand to three-quarter-inch stone, and is rolled upon a previously prepared surface in a two-inch layer; a flush coat of asphalt is then applied and spread in place with rubber squeegees, after which a coat of coarse sand is applied and rolled thoroughly into the flush coat.

Surfacings of the kinds mentioned can be laid at a cost of from forty to sixty cents per square yard. In experimental work of this kind, where special results are looked for, everything depends upon a suitable binder. As a rule, park superintendents and engineers are greatly deficient in the knowledge of the theory and practice of road construction where bitumen is employed as a filler, and it will be only by continued and systematic experiments that success will be achieved.

It is necessary in carrying on a series of experiments of this kind that each binder shall be subjected to a thorough physical and chemical test. By employing the same person in all cases to make such tests, and by carefully tabulating and comparing records, good pieces of work can be duplicated by means of rigid specifications in the purchase of material. This is a point which should be given careful consideration in all road work where bitumens are employed, whether for mere surfacing or for work of a more permanent character.

BUSINESS STREETS IN SMALL CITIES

THE City Engineer of East Orange, N. J., W. H. V. Reimer, in his last annual report calls attention to a condition which is becoming apparent in many of our smaller cities and suburban towns. This is the effect of growth in population upon not only the total length of streets to be maintained but upon the amount of wear per mile on the principal ones. Councils frequently increase their annual appropriation for street maintenance approximately in proportion to the total length of street to be maintained; but, says Mr. Reimer, "In taking simple percentages of increased mileage and dollars, a feature is lost sight of entirely which is an important factor. The increased and increasing traffic which comes on the streets by reason of the increase of population is not distributed over the newer streets and confined to them, but is added to the traffic on the older streets as well, thereby causing more wear and tear on roadbeds. The result is that streets which formerly would stand seven or eight years without need of general repairs are found to need resurfacing in four or five years, thus adding largely to the cost of maintenance."

This result of increasing street traffic not only requires that increasing amounts be spent on maintenance, but hastens the time when the character itself of the paving on the principal streets must be, for motives of economy alone, changed to some form of permanent paving such as brick, asphalt or the like. And not only economy but avoidance of the dust nuisance, of unsanitary percolations into the pavement and of other disadvantages of easily abraded, pervious surfaces calls for such changes. Many towns object to improved pavements, even on their main streets, as destroying that suburban appearance in which they take pride. But the growing use of such thoroughfares by automobiles with the resulting clouds of dust are causing many such towns to decide that even the urban appearance of improved paving is preferable to this nuisance.

PITTSBURG SIGNAL SYSTEMS

THE Pittsburgh, Pa., fire and police signal systems are being increased in extent this year by the expenditure of \$30,000 in the placing of additional wires in underground conduits. In addition to extending the system, it is being constantly improved in detail. In cases where an excessive number of boxes are connected on one circuit, a rearrangement is being effected whereby the number on any one circuit will not exceed 25. At present forty Star fire alarm boxes are being installed.

Many of the old sheet metal police signal boxes are being replaced by a plain call box. The department is contemplating fitting all call boxes with a patented handcuff device, by which an officer can fasten a prisoner until the arrival of the patrol wagon and in the meantime be ready to make other arrests or defend himself if necessary.

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SEPTEMBER 16, 1908.

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STATE AID IN SEWAGE DISPOSAL

THE idea that the State should assist municipalities in the construction of sewage disposal plants, which was proposed by the representatives of Pennsylvania cities at a recent convention, has not, we believe, been adopted or seriously considered heretofore. There are, however, many arguments to be offered in favor of

such aid, most of these being similar to those advanced successfully for bringing about the inauguration of State aid in the construction of good roads. In fact, certain of these arguments would appear to be even more applicable to the case of sewage disposal, since this is ordinarily of little direct benefit to the cities which pay for it, but is largely for the protection of those lower down the drainage valley. Just how large a proportion of the cost should be borne by the State and under what conditions such aid should be rendered is a matter requiring careful consideration and which would probably be decided differently in different States. It would seem proper that the cost of the sewerage systems themselves should be borne by the cities in which they are located, since these alone benefit by them. But the sewage disposal works, which are erected largely for the safeguarding of the health of other communities, would seem to be deserving of State aid to an even greater extent than our public highways.

FREE WATER BY MUNICIPAL PLANTS

THE Engineer and Superintendent of the East Orange, N. J., Water Department, A. A. Reimer, estimates that the water furnished free by the Department to the city in 1907 had the following value: Fire hydrants, 495 at \$30 per year, \$14,850; sewer flushing, 2,800,000 cubic feet at 75 cts. per thousand, \$2,100; street sprinkling, 3,400,000 cubic feet at 75 cts. per thousand, \$2,550; public buildings (except schools), 1,800,000 cubic feet at 75 cts., \$1,350; road department, shade trees, Orphans' Home, etc., 350,000 cubic feet, \$262.50; a total of \$19,897.15. The Department paid out over \$50,000 in interest on bonds and into the sinking fund, and received from the city rent of land and services of city officials estimated to be worth \$3,060. It would appear from this that the water users are paying into the city treasury nearly \$17,000 through water rates rather than through taxes.

Free water furnished by the Water Department of Kansas City, Mo., during 1907, is estimated to have had the following value: Fire hydrants, 4,461 at \$40 per year, \$178,560; 40 public watering troughs at \$100 per year, \$4,000; 21 fire stations at \$100 per year, \$2,100; 8 police stations at \$50 per year, \$400; police barn, city hall, work house, market house, hospitals, parks, boulevards, public bath, etc., \$13,640; 278 flush tanks, \$6,600, and flushing streets, \$5,000; a total of \$210,300.

In these cases the Department does not appear to be embarrassed by the amount of unremunerated work which it does for the city, as was the Department referred to in these columns three weeks ago; but this can only be because the consumers are paying a higher rate than necessary. An unfortunate result of free service to city departments is the tendency they generally exhibit to inordinate waste. In some cities there is more waste in schools and other public buildings than by almost any other consumers. If they were compelled to pay meter rates, the effect on such waste would probably be the same as in the case of private consumers.

NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

Mayor Pleased at City's Own Work

Bridgeport, Conn.—Mayor Henry Lee is much pleased with the showing made up to date in the paving of Cannon street by the city's own forces. He says, speaking particularly of the concrete, that while the work may cost a little more than a contractor would charge, the quality of the work is better and, he believes that the pavement, which is to be of brick, will last longer without losing its shape.

To Undertake Paving by Direct Labor System

Fulton, N. Y.—The Board of Public Works and the committee of Cayuga street property-owners have recommended that the Common Council authorize the paving of that street by day labor. It is the idea of the Board to experiment with this section in order to be in a position to be better able to determine action in regard to the paving of Oneida, Hannibal, Worth and West Third streets. If the city finds that the work can be done cheaper by day labor than by contract it does not expect to readvertise for bids for the proposed paving, as was expected would be done.

Commercial Bodies Promote Good Roads

Jacksonville, Fla.—At a recent conference of representatives of the Boards of Trade of Jacksonville, Palatka, Green Cove Springs and Orange Park held for the purpose of promoting the construction of good roads, plans and estimates were submitted showing that a sufficient amount of bonds can be issued and interest paid regularly and the principal paid at intervals after fifteen years, without increasing the present tax rate or imposing any additional burden upon the people, yet giving them immediately the benefits to be derived from the proposed improvements. The bridging of the St. Johns River and building of a hard road to Hastings to connect with the road being built in that direction from St. Augustine and the completion of the road from Jacksonville to St. Augustine will, in connection with the direct road from Jacksonville to Palatka, make a loop of some 140 miles, connecting the points named.

Must Resurface Street to Save Concrete

Topeka, Kan.—Because property owners on West Eighth street, formerly the most heavily traveled street in the city, believed that the cost of needed resurfacing ought to be done at the expense of the city-at-large and have consequently refused to petition for repaving, that thoroughfare has fallen into a disreputable condition, and much traffic has been diverted from it. The asphalt surface has gone to pieces, the concrete surface is exposed in some places and in others is imperfectly covered with broken stone. Recently in connection with proceedings regarding another street it has been shown that the city could not be made to stand the cost of resurfacing. Property owners have now concluded that it will be best to have the work done at an early date so as to save the concrete foundation, and the street will be paved with brick early next year.

Paving Award Taken to Supreme Court

Trenton, N. J.—After nearly a year's wrangling over a proposed Bitulithic pavement for Princeton avenue, during which two paving ordinances were vetoed by Mayor Madden, the contract was awarded to the United Paving Company of Atlantic City, but apparently the end is not yet. Mr. McDonald of the McDonald Construction Company, opposed the awarding of the contract, claiming that the specifications were unfair, as limiting the bidding to owners of patent rights. Certain property owners on the street, represented by Counselor J. H. Backes, have taken the matter to the State Supreme Court.

Grading Work at Seattle

Seattle, Wash.—With a roar as of thunder, water was recently turned in through two of the four hydraulic giants to be used in washing Denny Hill into Elliott Bay. The turning on of water from Lake Union marked the start of a task that will require two years to finish and which means the washing of 5,500,000 cubic yards of earth into the bay and the changing of grade from 20 to 30 per cent. The work was started at the corner of Second avenue and Pell street, and the water from that point will be run into a tunnel 875 feet long, connecting with a trestle 800 feet long on which a flume has been constructed to carry the dirt into deep water. At Bell and Second the tunnel is 46 feet deep and all of the sluicing for the entire district will be poured through this timber-lined water way. Grant, Smith & Company & Stillwell have the contract for the removing of the big hill, sub-contracting the work from the Rainier Development Company, the low bidder for the regrading of the streets and alleys. This will cost in the neighborhood of \$1,000,000 and the private property that will be leveled will cost twice as much as the least calculation. S. J. Stillwell has charge of the work and the pumps supplying the water are located on Lake Union and have a combined capacity of 12,000,000 gallons in twenty-four hours.

Village to Narrow and Improve Streets

Waterloo, N. Y.—The first question taken up by the newly-organized Chamber of Commerce was the proposed narrowing, curbing and beautifying of the streets. Prominent citizens and village officials spoke, all in favor of the change, and, in general, expressed the idea that Main street should be narrowed to forty feet, Virginia to thirty, and all the other streets to thirty-five. On motion of Park Commissioner C. A. Genung, it was voted to request the Village Board to take the matter under consideration.

SEWERAGE AND SANITATION

Finds Idle Pumping Engines

Boston, Mass.—While the city has been paying \$4,000 a year for pumping engines for the Street Department, four engines owned by the city, bought for and capable of the service for which the city has been hiring engines, have been idle at Calf Pasture, covered with dirt and rust. Supt. Guy C. Emerson of the Street Department made that discovery when making an inventory of the city property in his charge. He at once notified the contractors whose engines have been hired that their services are no longer needed, and sent oilers and cleaners to put the engines in working condition as quickly as possible.

Appropriates \$100,000 to Kill Flies

Boston, Mass.—The Massachusetts Board of Health has made an appropriation of \$100,000 for investigation of the habits and breeding places of flies and to work for their destruction. It is proposed to clear every marsh, bay, pond, lake and swamp in the State and destroy all the breeding places possible.

Can Have Water, But Can't Dispose of It

Nashville, Tenn.—Certain householders who have refused to obey an order of the Board of Health to cease draining waste water into alleys have been served with warrants to appear in court where a test case will be made. From the sanitary standpoint the Board is undoubtedly right, but the indignation of citizens, who have been supplied with water by the city and have not been provided with a drain to carry it away, seems not unnatural.

Sewage in Niagara River

Buffalo, N. Y.—Although Secretary of War Luke E. Wright has notified the city that the Bird Island sewer must be discontinued in July, 1910, when the revocation of the permit to empty sewage in Niagara River takes effect, Commissioner of Public Works F. G. Ward does not believe that the city is confronted with a serious problem. He says that the solution is either to lower the sewer after getting another permit or to continue the sewer along Niagara street to Scajaquada Creek, whence it empties into the river. The matter is in the hands of the Committee on Sewers with Col. Ward and Corporation Counsel Desbecker as advisers. Tonawanda and Niagara Falls have been complaining about water pollution and they might oppose a new application. "It's an impossibility to keep the Niagara River water pure with all of Grand Island discharging sewage into the river and a foreign country on one bank of the stream. If Niagara Falls and Tonawanda want pure water they can buy it from Buffalo," says Col. Ward. "The city could sell it to them at a lower rate than they are now paying for it, and make money in the transaction."

Contractors Must Pay for Water

Niagara Falls, N. Y.—All contractors will henceforth be obliged to pay for the water which they use in building. It has been their custom to tap the water mains wherever new work was under way and use water without payment to the city. In order to make effective new rules which have been adopted the Water Commissioners also passed a resolution requesting the Board of Public Works to issue no building permits until Superintendent Callahan has certified to them. The water works will thus be able to keep an eye on all new work.

Land-owners Must Keep Alleys Clean

Plymouth, Pa.—Land owners are responsible for the sanitary condition of the alleyways in any plot and the same will be considered as still in their possession unless they specify in the deeds given to purchasers that space for alleys is included in the sale. This is the conclusion reached by the members of the Township Board of Health after consulting with their counsels, and offers a solution of a perplexing question which has been vexing the Board for some time. It began months ago with a complaint of the unsanitary condition of an alley back of First street, East Plymouth. The property owners abutting on either side refused to clean it, claiming they were not responsible. The decision of the Board places it squarely up to the original owner of the land.

Sewage Farm Unprofitable

Salt Lake, Utah.—The Engineering Committee of the Council recently took up the matter of collecting from James Leary \$1,000 due for the rent of the sewage farm and decided that it would not insist on the collection of that amount. The sewage farm is located in Davis county and is at the end of the gravity sewer. Because during the past two years a great volume of water has been used in sewer flushing, the farm has been flooded nearly all the time and it has been impossible to raise crops. Mr. Leary stated that he had received no benefits from his lease and the committee agreed with him.

Enforcing New Tuberculosis Law

Washington, D. C.—Dr. Woodward, Health Officer, is making active preparations to enforce the law passed at the last session of Congress providing for the compulsory registration of tuberculosis. Microscopical examination of the sputum of the persons reported to him are to be made by the health officer, and the latter will submit his findings to the physician or officer on whose application the examination was made. In connection with the enforcement of the law culture tube stations have been established in a number of drug stores throughout the city, and the health officials are now engaged sending to the stations small bottles or tubes for the collection of sputum of suspected persons. All reports and records in connection with the law will be kept in a book, of which the Health Officer will be the custodian. It will be private.

Dirty Bakeries in Omaha

Omaha, Neb.—In a report made public at Lincoln, Food Commissioner J. W. Johnson showed the condition of sixty-three bakeries of Omaha, as examined by his inspectors, seventeen being designated as clean, fourteen as fairly clean and thirty-two as so dirty and unsanitary as to make their products unsalable if the consuming public knew of the conditions under which it was produced. The larger bakeries operating by machinery are designated as the cleanest; these produce a large percentage of the daily output. The thirty-two dirty bakeries product about one-third of the bread and baked stuff consumed daily in Omaha and South Omaha, amounting to about 17,000 loaves of dirty bread daily.

WATER SUPPLY

Obtaining Fresh Water in a Nitrate Country

Antofagasta, Chile.—The Boquete Nitrate Company, which has its works in a rainless country where the sun shines continually, uses an ingenious apparatus for turning the brackish water of this region into sweet water. It consists of a series of frames containing twenty thousand square feet of glass. The panes of glass are arranged in the shape of a V, and under each pane is a shallow pan containing brackish water. The heat of the sun condenses the water upon the sloping glass, and this fresh water then runs down into a little channel, and is carried away into the main canal. Nine hundred and fifty gallons of fresh water can be collected daily.

Would Include Filtration Plant in Reservoir Project

Baltimore, Md.—Water Engineer Quick is desirous of having the contemplated water loan of \$5,000,000 include a provision for rapid sand filtration. Owing to the expected purification of the water in the large reservoir, the Engineer believes that these rapid filter beds, each with a capacity of 30,000,000 gallons a day, two of them to be in operation at a time, together with a preliminary treatment of the water with chemicals, would turn out a supply of pure water.

Pittsburg Councilmen Approve Cleveland Meter System

Cleveland, O.—Satisfied by their inspection the seven Pittsburg Councilmen who have spent two days investigating water meters used here intimated that they would recommend the installation of a similar system in Pittsburg. The visiting Councilmen held consultations with E. W. Bemis, Superintendent of the Water Works Department, and Dr. Friedrich, Health Officer. Dr. Friedrich told the Councilmen that the use of meters here had never in any way interfered with the city health regulations nor affected the purity of the water supply.

Pure Water Will Cost Twice Present Schedule

Columbus, O.—As soon as the new water softening and filtration plant, which is practically completed but owing to the unfinished condition of the pumping station cannot be used for some months, is put in operation the rate for metered water will be 16 cents per 1,000 gallons, double the present rate, but as low as that charged in any city in the United States where a purification and filtration plant is in operation.

For the first time in the history of the Columbus storage dam, finished three years ago, the city recently utilized water from the storage reservoir which contains 1,627,000,000 gallons. The amount drawn out was 10,000,000 gallons daily.

Johnstown in Danger

Johnstown, Pa.—Made helpless by lack of water, the city firemen had to stand by while the municipal crematory burned. The situation is critical. One-third of the city is absolutely dry. Springs and wells have nearly all dried up. One reservoir stands between the city and utter famine. The starting of outdoor fires of any character has been forbidden. The nearby country side is parched. Many city buildings have been forbidden to use water for elevators. It has been proposed to run trainloads of water to Johnstown from outside points.

Purification of Delaware River Proceeds

Lambertville, N. J.—The State Board of Health is continuing its crusade against the pollution of the Delaware River and has issued a summons to the city officials of Lambertville requiring them to appear before the Board and show cause why the city should not cease polluting the Delaware River and its tributaries. The State Board of Health has been investigating conditions at Lambertville for some time and is continuing the probe. They have found 42 cases of pollution, representing filth from house sewers, garbage dumps and sewers from factories. All this, about 50,000 gallons, besides the washings from the banks of the sewers, goes right into the Delaware. What that means to Trenton, which gets its water only 13 miles away, it doesn't take a very sharp comprehension to appreciate. Lambertville, according to the State authorities, is one of the exceedingly few places in the country of its size which has not a municipal sewerage system.

Two Distribution Systems United

Mobile, Ala.—A tie-in of a 30-inch to a 36-inch main was successfully completed by the use of the tapping machine of the Smith Manufacturing Co., of New York. The value of the coupling, together with another placed last year, is that the city water system can be made into one, with both pumping stations or either one furnishing the supply. A week was required for the work and the cost, including the construction of two manholes, was \$1,250.

Councilman Asks for Filter Investigation

Pittsburg, Pa.—At a recent Council meeting, Councilman J. M. Orr called for an investigation of the filtration plant, claiming that it would be useless to make additional appropriations for filter beds as requested by Mayor George W. Guthrie because those now in operation, he claimed, do not operate properly and never will. The Councilman further stated that if allowed access to the plant and books of the Water Department he would engage an expert engineer and a committee of prominent citizens who would sustain his statements.

Water Company Sued Because of Fire

Rochester, N. Y.—Alleging that the Depew & Lake Erie Water Company is guilty of breach of contract in furnishing an inadequate water supply to St. John's Rectory, a trade school at West Seneca, the Allemania Fire Insurance Company of Pittsburg and 40 other companies have brought suit to recover \$39,470.81, the amount paid out on policies when the school was damaged by fire on January 15, last. The question at issue, whether a company guaranteeing a certain water supply and pressure, can be held liable for any damage resulting from a fire, in the event that the failure of the supply or pressure is responsible for loss which might otherwise have been averted, will be tried out for the first time in the State when the case comes up for trial. In addition to the water company five insurance companies are also named as defendants, because they refused to enter as plaintiffs and contribute to the expense of the suit.

New Intake Completed

Erie, Pa.—In the presence of the Water Commissioners and several hundred invited guests the laying of the last section of the new water intake was completed September 1. It is expected that the improvement in the quality of the water will be all that can be desired. Divers engaged in the work say that at the old intake in the bay the water was so dirty they could hardly see the pipe while at the new intake it is as clear as crystal.

Wells Dug by Subscription

Wheeling, W. Va.—Well drillers are finding a fruitful field in Wheeling at the present time, as the result of the commendable efforts of public-spirited men and women of the various wards. Physicians believe that the advent of so many wells will materially reduce the number of fever cases resulting from Ohio River water. The drilling of wells is paid for by subscriptions pledged by residents in the neighborhood.

Cleaning Water Mains

St. Louis, Mo.—Water Commissioner Ben C. Adkins is trying an experiment in cleaning water mains. After twenty-five years, one ten-inch main has almost ceased to give service and replacement was contemplated, but the National Water Main Cleaning Company of New York City offered to make the pipe as good as new by removing the interior obstruction. The pipe is opened at two points and is scraped out by a rotating device working between the two points. The work is being done at night and does not interfere with the water service. One-half mile is now being cleaned and contracts probably will be let for several miles more. The cost of cleaning ten-inch pipe is about 24 cents a foot against about \$1.65 a foot if it was to be replaced with new pipe. The pipe is found to have rusted but little, and practically none on the inside after twenty-five years.

Municipal Party Returns from Sierras

San Francisco, Cal.—The Supervisors and other city officials have completed their trip of inspection of the Sierra watersheds which it is proposed to acquire for purposes of a municipal water supply for San Francisco and neighboring towns. The members return with the conviction that the opportunity offered to secure water rights should not be allowed to pass even though no immediate use be made of the water. The quality of the water was found to be all that was expected and the quantity sufficient to supply the bay cities for the next hundred years.

Test Pits Struck Boulders

Rome, N. Y.—The contractors for the water works have been obliged not only to excavate to a depth of six feet according to their contract to find a rock foundation for the dam at Fish Creek but have gone down to a depth of twenty-two feet and still have not found any rock foundation. This is a serious matter financially for the extra excavation costs 90 cents per cubic yard. It seems that in the preliminary surveys two test pits were sunk and both of them struck large boulders at a depth of five or six feet. If solid rock is not found at about thirty feet, the dam will be built on the dirt as it seems solid.

STREET LIGHTING AND ELECTRIC POWER

City to Pay Municipal Plant

Alameda, Cal.—The Electric Light Commission of the city of Alameda intends to ask the Council to change the plan of conduct of business of the municipal lighting plant so that the city will pay for its lights and thus furnish funds necessary for extension of new circuits for private service.

Electrical Department Is Progressive

Tacoma, Wash.—In order to increase the day load of the municipal plant the City Electrician has recommended to citizens the use of electric cooking apparatus. For this purpose current will be supplied for 3 cents per kilowatt hour. Another improvement is the installation of 60-watt 6.6-ampere series tungsten lamps.

Mexican Government Aids Hydro-Electric Proposition

Torreón, Mexico.—The Federal Government has agreed to give its financial support to the proposition to build a great dam across the Nazas River at a point where it emerges from the mountains, in the San Fernandez canyon, about one hundred miles southwest of Torreón. Government engineers have been making surveys and estimates of the projected dam for several months. According to these estimates the dam will cost about \$6,000,000, gold, to build. It will be one of the largest water storage reservoirs on the continent, and will afford a water supply for the whole Nazas River cotton-growing district for a period of three years without replenishing. In connection with the great dam it is planned to install a hydro-electric plant which will generate enough electric power to supply all of the towns within a radius of 150 miles.

Municipal Lighting Enterprises Make Good Reports

Holyoke, Mass.—The report of the city Gas and Electric Department recently forwarded to the State commission shows an increase for the year of 18.9 per cent. of gas manufactured for the year and 17.1 per cent. of current sent out. The receipts of the electrical plant were \$152,413, showing a net profit of \$13,264. The receipts of the gas plant were \$174,327, with a net profit of \$3,253. The gas plant sent out 177,536,853 cubic feet of gas; the electrical plant's product was 4,720,770 k.w.

Proud of City Plant

Fort Wayne, Ind.—The new municipal lighting plant, which has been in course of construction for several years, has been thrown open to the public. The plant is absolutely modern and a monument to the present city administration.

FIRE AND POLICE

Mounted Police for Lawrence

Lawrence, Mass.—If Mayor Kane had the authority he would very shortly provide the Police Department with three or four mounted police, thus making this city up-to-date in this respect. The Mayor expresses himself as being heartily in favor of such a thing, but in order that his recommendation may be realized it would be necessary for the City Council to take action on it. It is possible that when the city government reconvenes in the fall an order, appropriating a sum of money for about four or five horses with the equipments, might be introduced.

To Care for Sick Firemen

Nashville, Tenn.—There is a movement on foot to secure an appropriation from the next Tennessee Legislature of a portion of the funds derived by the State annually on foreign insurance taxes. A communication will be sent to all fire departments in the State from the Nashville department, asking for co-operation. This appropriation is asked for the benefit of the firemen's benefit fund all over the State, and will, if secured, be used in caring for sick and disabled firemen.

Advantages of Chemical Apparatus Summarized

New York, N. Y.—In a report to the Merchants Association Captain Greely S. Curtis enumerates the advantages of chemical fire apparatus as follows:

1. Promptness in getting into action.
2. Ease with which chemical lines may be handled.
3. Sufficiency for all incipient and many well started fires.
4. Independence from hydrant troubles, such as inadequate supply, frozen hydrants or defective hydrants.
5. Availability as skirmishers on the outskirts of a threatening fire.
6. Reduction in water damage.
7. Well adapted to handle fires in confined spaces.
8. The use of chemical apparatus permits the heavy apparatus to be dismissed more promptly from fires.
9. Less likely to obstruct traffic on a busy street.
10. Chemical engines can be quickly moved from place to place to check simultaneous incipient fires.

New Uniforms for Reserves

Philadelphia, Pa.—The Reserve policemen have been furnished with their new fall uniforms, which are of an entirely new design and fashioned with the shield front, which adds to the military appearance of the corps. Another new departure is a "swagger" cane, such as is used by English soldiers. A new style of cap has also been supplied, which, it is stated, will add to the appearance of the men and be comfortable and serviceable at the same time. The tape trimmings are much narrower, and will not be so easily soiled as on the old uniforms. There will be different colored trimmings in the several corps. For instance, the Reserves proper will have their uniforms trimmed with white tape trimmings, while the traffic squad will have yellow and the patrol and motor squads red. The harbor squad will be marine blue and that of the policemen in the several districts will be pale blue. The Reserves will wear their new uniforms for the first time on Municipal day, at the Founder's parade, October 6.

Fire Protection in Oswego

Oswego, N. Y.—The report of the Fire Prevention Committee of the National Board of Fire Underwriters on the fire fighting facilities shows that the conflagration hazard is severe in parts of the principal mercantile district. This is due to structural weaknesses, a poor water supply and a weak Fire Department. Mitigating features are found in the width of the river and the good width of the streets. Bad fires are probable in the lumber and manufacturing districts. The hazard throughout the city is greatly increased by the totally inadequate water supply and the poor Fire Department. A very small percentage of the streets are paved and overhead wires offer serious obstruction to Fire Department operations while grade crossings delay fire apparatus. The number of fires is low, but the average loss for five years is very high.

Chief Puts Out Fires

Newton, Mass.—Chief of the Fire Department Walter B. Randlett responds to fire alarms in an automobile which carries two portable chemical extinguishers. As the Department has no automobile apparatus, it sometimes happens that the Chief arrives at a fire and extinguishes it before any of the regular equipment arrives.

Attorney to Instruct Police

Philadelphia, Pa.—A recommendation has been made by Superintendent John B. Taylor for the appointment of an attorney for the Police Bureau of Philadelphia to instruct the men in the fundamental principles of criminal law and to help in the gathering of evidence.

Up-to-Date Police Vehicles

Washington, D. C.—Maj. Richard Sylvester, Superintendent of Police, is an advocate of horseless patrol wagons for the Police Department. Horses are too slow, in his opinion, and are more costly in the end than motors would be, he contends. In his estimates for running his department during the year beginning July 1 next Maj. Sylvester is going to include an item for motor patrol wagons. He wants ten of them—one for each police precinct. He has figured that they will cost about \$3,500 apiece. When it is considered that the present wagons cost about \$800 and the horses about \$250, and that the horses cost about \$300 a year apiece for maintenance, he explains, there is little difference in expense and much difference in service to be considered.

GOVERNMENT AND FINANCE

Mayor After Tack Throwers

Harrisburg, Pa.—All the patrolmen have been ordered to see that the ordinance prohibiting the throwing of tacks, broken glass, bits of iron or tin or other metal that may give trouble to automobiles and other bicycles as well as horses on the streets is complied with. "Make that strong," said Mayor Meals in speaking of the matter after the ordinance had been read to the policemen. "In many instances new tacks are found on the streets and are the cause of punctures. That sort of thing looks suspicious. If old nails or something of that sort that might fall accidentally from roofs and so on were responsible it would look as if their presence on the streets couldn't be helped. New nails or tacks certainly look as if they had been placed there for a purpose."

Premium Falls on City Loan

Philadelphia, Pa.—Notwithstanding the easy condition of the financial markets, in which money is more abundant than it has been for several months, Philadelphia's new \$10,000,000 4-per cent. loan, bids for which were opened recently, went at a premium considerably below that which was obtained for last April's loan. While Controller Walton, who had charge of the opening of the bids, in the absence of Mayor Reyburn, expressed satisfaction with the figures bid, the fact that the premium was materially reduced and that local bankers, supposed to be best acquainted with the situation, made low bids, was taken as indicating that the city's credit had not remained unaffected by the large projects contemplated by the present administration. The loan went at about 103.4.

Advertising Saves City One Million Dollars

Baltimore, Md.—Chief Engineer Calvin W. Hendrick of the Sewerage Commission says that sewerage construction in this city has been done with a remarkable degree of economy, and the reason for it is that by advertising the city has received bids from many of the biggest construction concerns in the country. "We advertise for bids on separate sections, and in this way receive them not only from the biggest contractors but from small ones as well. A man or a company may bid on one section or he may bid on several. When a company has its bids for several sections accepted it makes it worth while for the concern to move a big plant here. This is the case with the Connelly Construction Company of Cleveland, which was awarded the contract for three sections of the outfall sewer. It moved a big plant here, and the magnitude of the work it was to do justified it in bringing here three or four locomotives, several cars and other equipment, as well as four miles of track, which it has laid at Back River."

Mobile's Good Financial Year

Mobile, Ala.—In his annual message, Mayor P. J. Lyons says that the notable achievement of the municipality was the funding of the old city debt and the removal of the court machinery created for the settlement of the debt by act of the Legislature in 1880. This legacy of indebtedness virtually set up a second government, in which the people had no voice, maintaining a costly department for the collection of a special tax, responsible only to the courts. The receivership is now out of existence, the tax is included in the general taxes, and the city saves from \$10,000 to \$12,000 annually by the abolishment of the legal machinery. The whole cost of collection has been reduced to \$1,000 annually, and the difference between the present and former cost will be sufficient to pay off the \$2,000,000 issue of funding bonds in course of time. This enables a reduction of the tax rate. Under the special and general rates which obtained before the old bonds were retired, the total rate was \$1.35 a thousand, and under the new conditions, when the levy is made by the city in regular order, the total rate will be \$1.00, or at the outside \$1.05 a thousand on the assessed value of property inside the new city limits, as the assessment appears at the present time. The Mayor expresses regret that the City Council did not authorize a sinking fund for the funding bonds, because such fund would have enabled the city to purchase any of the bonds offered for sale.

Finance Committee Makes Recommendations

Newburgh, N. Y.—The Finance Committee, consisting of William J. Kohl, H. T. Coldwell and Fred G. Brown, has made the following recommendations:

1st. That all merchandise, material, hay, oats, feed and supplies or tools of whatever character, sold or furnished the city, must be upon the written order of some member of a standing committee of the City Council.

2d. That all goods, etc., delivered to the city must be checked off by the officer or employee of the city receiving the same and such receipt immediately reported to the member of the City Council giving the order for such goods.

3d. That the certificate of the officer or employee of the city so reporting to the member of the standing committee of the City Council must in turn be transmitted to the chairman of the committee.

4th. That no bill for material or supplies shall be approved by the Auditing Committee unless properly certified by the chairman of one of the standing committees of City Council to which such charge properly belongs.

5th. That all pay rolls of the Street Superintendent for labor upon the public works must have certificate of approval attached each week before the payment of such pay roll, and that all such payments be made under the direction and supervision of the Chairman of the Street Committee.

Mayor Investigates City Commission

Salt Lake, Utah.—Mayor John S. Bransford has written to several cities now being governed under the Galveston or Des Moines plan for information as to the advantages of the new system of municipal government. If the Mayor's investigations result satisfactorily, it is believed that he will become an advocate of the change in the form of the city government.

Claims Unfair Taxation

Plainfield, N. J.—Highly incensed over what he believes to be a manifestly unfair assessment of taxes in Plainfield and determined to do all in his power to correct the alleged unfairness, Samuel W. Rushmore, owner of the Rushmore Dynamo Works, has taken steps to form an Industrial League in Plainfield, the membership to be comprised almost entirely of working people and people of moderate means. He declares that the wealthy property-owners of Plainfield are not paying their proportionate share of the taxes, adding that if they did the tax rate would be about one-tenth what it is now. Mr. Rushmore is assessed on \$56,000 personal property and says that legally his assessment is correct and he has no fault to find with it, but when he learned that the Pond Machine Tool Works was assessed on \$125,000 personal property he declared with emphasis that it was an outrage and if he could help it the assessment would not be allowed to stand. He says that he is willing to take an affidavit that the Pond Machine Tool Works has \$1,500,000 of personal property.

REFUSE COLLECTION AND DISPOSAL

Garbage Ordinance Passed

East McKeesport, Pa.—An ordinance has been passed regulating the disposal of garbage. The word garbage is defined so as to include in addition to the usual refuse, ashes, rags, paper, tin cans, chips, etc. It is provided that no decaying organic matter be thrown in streets or vacant lots or be retained on the premises more than 24 hours. The burning of refuse on public highways is prohibited. Kitchen refuse and the like are to be kept separate from incombustible material and disposed of in a sanitary manner. Refuse must be hauled in tight wagons in such a manner as to prevent dropping it on the highways.

Will Collect Garbage from Back Yards

Newark, N. J.—The Committee on Finance of the Common Council has voted to appropriate sufficient money as an addition to the scavenger account of the Board of Works, to enable it to make a supplemental contract with L. J. Buckley & Co., to make all future collections from the houses or rear yards, and thus do away with sidewalk collections. In providing for the proposed change the committee agreed that the wisest course was to make the additional contract an experimental one, and in carrying out that idea the City Council was requested to notify the Board of Works that it is the judgment of the committee that the house and yard collection pact should be made to extend only to the end of the present year. The purpose of this was to make it feasible, in the event of the additional contract proving unsatisfactory, to change it. Chairman Sinnott stated that he had given close attention to the system of scavenger collection and was convinced that the method of placing the receptacles three feet from the house line was an absolute failure.

Protests Against Location of Incinerating Plant

Scranton, Pa.—Two hundred or more property owners of the Sixth and Eighteenth and Eleventh Wards, have protested against the construction of the proposed municipal garbage incineration plant in Elm street and have appointed a committee to wait on Mayor J. Benj. Dimmick to ascertain if the plant cannot be built in some more isolated locality.

Contractors Sue, But City Gets Fees

Harrisburg, Pa.—The garbage contractors, Carlile and Martin, have agreed through their attorneys to bring suits against the violators of the garbage ordinance. The offenders are the large hotels in the central part of the city and the owners of dead animals who claim that they can sell them and that the garbage collectors cannot take them. The contractors have acceded to the view of City Solicitor Seitz that the suits be brought in the name of the city, but they suggest that the city might place itself in an awkward position by lending the use of its name to a third party. The penalties when collected will be turned over to the city treasury.

RAPID TRANSIT**Mayor Orders Election on Traction Franchise**

Cleveland, O.—Acting on the request of Mayor Tom L. Johnson, the City Council has ordered a special election to be held, October 22, to endorse or reject the street railway security franchise under which the Municipal Traction Company secured control of the street railroads. The Municipal is involved in financial and legal difficulties which may be met when the franchise agreement is no longer in doubt. The railroad is earning, barely operating expenses and it has a floating debt which is difficult to carry. There are also suits pending alleging fraud in some of the stock dealings. The financial difficulties can be overcome by an increase in fares, if necessary, when the present management is made secure by the referendum vote.

Railroad Will Pay for Widening Street

Milwaukee, Wis.—President John I. Beggs has notified Aldermen J. P. Carney and Oscar Altpeter that he would defray expenses of widening Western avenue in order to lay double street car tracks on that thoroughfare from North avenue to the city limits. The Carney ordinance to widen Western avenue eight feet will in consequence be recommended to the Council. The chief objection that the property owners on Western avenue had to the building of this line was that they would have to pay for the widening of the street.

Progress in Rapid Transit in Philadelphia

Philadelphia, Pa.—The Councils' Joint Special Committee on Street Railways are actively at work studying street railway conditions and endeavoring to improve them. At their request, in order to ascertain the ownership of the railways the stock books of the Union Traction Company and the Rapid Transit Company have been opened to inspection. At the same time, speed tests are being conducted under the direction of General Manager Kruger. Beginning at 6 o'clock in the evening, cars are operated on the schedule used on Sundays. This provides for a maximum speed on some lines of sixteen miles an hour, as compared with an average of seven miles or less during week days. Division superintendents and street superintendents will make observations and reports.

District Commission Insists on Direct Dealing

Washington, D. C.—Notwithstanding the fact that the local street railway companies refused at first to recognize the authority of the District Electric Railway Commission appointed by the Interstate Commerce Commission to regulate local traction lines, and refused to recognize communications of inquiry from the local subcommission, that body has voted to write direct to the railway companies for further information. In asking the local railway lines to do now what they refused to do some weeks ago, the District Commission is acting under orders of the Interstate Commerce Commission. Should the railway lines again refuse, it is intimated, the Interstate Commerce Commission will take further action.

MISCELLANEOUS**Injury to Municipal Canal to Be Repaired**

Augusta, Ga.—The cost of repairing Augusta's unique municipally-owned canal which supplies power to cotton mills and returns the city a good profit, will cost \$20,000. The banks of the canal were washed away during the recent floods and will require 40,000 cubic yards of dirt for their repair, according to the estimate of Commissioner Nisbet Wingfield. Councilman A. J. Twiggs objected to a proposition to employ idle factory employees for the work, saying that the work could be done much quicker by contract, probably in 30 days.

London and American Baths

London, England.—J. B. MacCabe, of Boston, who has just completed on behalf of the city of Boston and the Amateur Athletic Union of America, an investigation of the municipal baths, gymnasia, playgrounds and wash houses of England, announces the London system under the Marylebone Borough Council, admirable, and thought America had much to learn

from them in the way of wash houses and laundries. In one way, however, they were behind America, as charges were made for the use of the baths and laundries. The municipal gymnasia have not advanced as far in England as in America and the playground system cannot be compared with the American.

Kansas City Park District System

Kansas City, Mo.—During a recent visit to Seattle City Engineer E. A. Harper gave the following explanation of the Kansas City Park District system:

The plan we adopted has resulted in arousing a great amount of neighborhood pride. We make a nominal levy for park purposes, and the city is divided into park districts, and the district is given authority to make such park improvements as it desires, taxed against the property of that district. By this means the entire city is not taxed for park improvements in the outlying districts, and it has developed a certain amount of neighborhood pride, which has resulted in every one of the residential districts making a great effort to excel the other districts in the way of park improvements. These are paid for in twenty-year bonds, very similar, as I understand, to your system of street improvements. Without this plan it is doubtful if Kansas City could have obtained its distinction as a city of parks and boulevards.

Municipal Dock for Seattle

Seattle, Wash.—Francis W. Grant, Superintendent of Buildings, a department created by charter amendment adopted at the municipal election last March, estimates that it will require \$537,466 to carry through the work cut out for his division in 1909, and included in this is an item of \$100,000 for the improvement of the city dock at the foot of Madison street on rather elaborate plans. In the creation of the Department of Buildings several departments are relieved of responsibilities, including the building and furnishing of fire houses, rentals for departments outside the city building and the acquirement of property for various municipal purposes. Superintendent Grant plans the extension of the dock a sufficient distance into the bay to make room for two fire boats, with sufficient room left for public dockage of every character. Plans and specifications are now in the hands of an architect and they call for a dock of large enough proportions to make a vast improvement on the waterfront, including a tower at the water end of the structure to be used for lookout purposes and from which every one of the buoys may be inspected at long range.

Success of Utica's Public Bath

Utica, N. Y.—The public bath at the head of Lincoln avenue has had an unusual patronage this year and has never been in better shape. This is the fourth consecutive season that it has been in charge of John M. Graham, and his knowledge and experience have enabled him to make improvements each year. This year the water used for bathing is far clearer than ever before and this owing to the fact that the level of the Chenango canal south of Pleasant street is kept filled and the water can therefore be changed more frequently than ever before. The appropriation for the maintenance of the bath house this year is but \$1,000 and the prospects are that the expenditures will be within this sum. The amount spent for repairs will be in the neighborhood of \$100. The number of bathers this summer has been larger than ever before. This season two days a week instead of one are devoted to women and girls, and the number is considerably larger. The average number will not be over 100 daily, but some days it has gone as high as 300. The number of boys and men bathers has gone as high as 700 in one day several times, and on one occasion reached 750. During the month of June the number of bathers was 6,479, of whom 6,369 were boys and men and 110 girls and women. In July the total number of bathers was 10,703. During August the number was not as large and in the last few days it began to drop off perceptibly. Bathing, however, will continue by a few till late in September. The cost per bath considering the large number who enjoy the refreshing exercise, is trifling. In time the city may have public baths so located as to be easily accessible by walking and open the year around.

LEGAL NEWS

Summary and Notes of Recent Decisions—Rulings of Municipal Interest

APPLICATION OF SMOKE ORDINANCE LIMITED

Atlantic City vs. France.—Where a city charter empowers the adoption of ordinances necessary and proper for the protection of persons and property, and for the preservation of the public health, sufficient power is given to sustain an ordinance directed to the suppression of the emission, from smokestacks, of dense smoke, containing soot in sufficient quantities to fall upon the surface of the city, but its application must be limited to smoke of such character as invades the rights of persons and property. Before a conviction can lawfully be had under such ordinance, the invasion and injury must be determined by a court having jurisdiction over such matters.—Court of Errors and Appeals of New Jersey.

RAILWAY RECEIVERSHIP—TRANSFERS

In re Receiverships of Street Railways.—Receivers operating street railroad lines being trustees for the owners and creditors, it is their duty to curtail transfer privileges of passengers, where it will increase the earnings of the property and there is no law of the State requiring the issuing of such transfers.—United States Circuit Court, Southern District of New York.

POWER OF APPOINTMENT

Board of Aldermen of City of Covington vs. City of Covington.—Under Kentucky Statutes of 1903, providing that the Mayor shall appoint a Superintendent of Public Works, but that such Superintendent shall not make any appointments or employments until the number and compensation of appointees and employees shall have been fixed by ordinance, etc. Held, that while the Superintendent has no power to make any appointment until so authorized by the Council, yet when by ordinance the Council authorizes the appointment, etc., the Superintendent has the right of appointment of the employees, and the Board of Councilmen could not elect a person to hold the position created by them of Overseer of the Street Cleaning Department.—Court of Appeals of Kentucky.

ANNEXATION OF TOWN—RIGHTS

Barber Asphalt Paving Co. et al. vs. Field et al.—Revised Statute of 1899 provides that on the extension of the territorial limits of a city to include any portion of another city, the corporate existence of the incorporated city should ipso facto cease, and all property and "rights" of every kind, belonging to and vested in such incorporated city, shall by operation of law vest in the city making the extension, which shall at once become liable for all debts and liabilities of the incorporated city. Held, that the word "right," as used in such section, was not limited to property rights, but included powers, privileges, etc., so that where the city of Westport, prior to its absorption in Kansas City, executed a special tax bill to complainant, which was void, owing to the mistake of the officer of that city, Kansas City, after the absorption, had power to issue to complainant a valid tax bill in lieu thereof.—Kansas City Court of Appeals, Missouri.

ORGANIZATION OF TOWNS—DEBT

Town of Partridge vs. Dennie.—In the absence of a statute prescribing the manner and method of adjusting township rights and liabilities respecting the payment of outstanding indebtedness in cases where a new town is organized from territory within an old town, the two corporations may adjust and apportion the same in harmony with their views of justice and fairness; and an agreement entered into for that purpose will, at least after performance by one of the towns, bind each town, though perhaps not the holders of the indebtedness thus apportioned for payment.—Supreme Court of Minnesota.

ASSESSMENT—CHURCH PROPERTY

Boussneur vs. City of Detroit et al.—In an assessment of benefits arising from the opening of a street, against the property benefited, church property benefited was omitted as exempt. The property owners brought suit to enjoin the enforcement of the assessment on the ground of such omission of the church property. Held, that since if the church property should have been assessed it would only make the assessment on the other property smaller, the property owners were not entitled to relief, where they neither made any claim for any reduction, nor tendered their proportionate share of the tax.—Supreme Court of Michigan.

PAVING—PETITION—ASSESSOR'S CERTIFICATE

People ex rel. Brownell vs. Board of Assessors of City of Buffalo.—Under the Buffalo charter, prohibiting the ordering of street paving in certain cases unless authorized by "a majority of the resident owners of the lands fronting on the street representing at least two-fifths of all the feet front," several persons owning a parcel of land are improperly counted as one. Buffalo Charter, Laws of 1891, requires an application for a paving improvement by property owners to be referred to the Board of Assessors to ascertain whether a majority of the resident abutting owners representing at least two-fifths of the feet front have applied for the improvement. Section 399, as amended by the laws of 1900, makes the Assessor's certificate to the application conclusive as to the facts. The Code of Civil Procedure provides for a review by certiorari of a question whether, on making a determination, any rule of law affecting the rights of the parties thereto has been violated to relator's prejudice. Held, that though the Assessor's certificate cannot be attacked collaterally, and any tax levied upon the strength of the certificate, sufficient on its face and not set aside, cannot be attacked, though the statement of facts in the certificate may be incorrect, and in a direct proceeding to review the Assessor's action a mere miscount or other like mistake of fact may be beyond review by the courts, where the facts stated in the certificate are concededly incorrect and the Assessors have acted upon an erroneous principle of law in reaching that result, the question may be reviewed upon certiorari.—New York Supreme Court, Appellate Division.

STREET OPENING—BENEFITS

In re East One Hundred and Thirty-sixth Street in City of New York.—The general rule that the cost of land taken for each block of a street shall be assessed on the property fronting on that block was inapplicable to an extension of a street so as to give access to the water front to the benefit of the surrounding neighborhood, in which case the surrounding property so benefited was properly assessed.—New York Supreme Court, Appellate Division.

DETACHMENT OF AGRICULTURAL LANDS

Borough of Belle Plaine vs. Brenke.—The laws of 1907, authorizing the detachment of agricultural land from cities containing a population of 10,000 or less. Held not applicable to the Borough of Belle Plaine. The laws of 1905, providing the same relief as to villages. Held unconstitutional and void, in that it delegates, or attempts to delegate, legislative power and discretion to the district courts.—Supreme Court of Minnesota.

FRAME BUILDING IN FIRE LIMITS

Clark vs. City of Deadwood et al.—Injunction will not lie to enjoin a city from removing a frame building from the fire limits, since the owner has an adequate remedy at law for any damages sustained; the city not appearing to be insolvent.—Supreme Court of South Dakota.

CONTRACT FOR DEPRESSING TRACKS

Morris & E. R. Co. et al. vs. Mayor, Etc., of City of Newark.—An agreement, executed December 26, 1901, was entered into between the railroad companies and the city of Newark, providing for the elevation and depression of their railroads over and under certain streets and avenues within the city in order to avoid the dangers to life and property incident to street grade crossings. For its share of the cost of such changes the city agreed to pay, upon the completion of the work, to the companies, certain sums of money. Held, that the agreement was intra vires of the municipality under the act of the Legislature passed and approved March 20, 1901. The payment by the city of a recognized moral obligation assumed by it for services rendered at its request is within the legislative power to authorize, and does not constitute a donation or appropriation of the public funds within the prohibition of either Section 19 or Section 20 of Article 1 of our State Constitution.—Court of Errors and Appeals of New Jersey.

PLUMBING ORDINANCE

Robinson et al. vs. City of Galveston et al.—The laws of 1897 provide that every city having underground sewers shall create a Board of Plumbers to consist of a member of the local Board of Health, etc. Galveston city charter provides for officers without providing for a Board of Health and authorizes the regulation of plumbers. Held, that the act of 1897, though general, does not apply to Galveston, since it does not have the officers named in the act as members of the board, and it may adopt an ordinance creating a Board of Examining Plumbers.—Court of Civil Appeals of Texas.

DEFECTIVE STREET—COMPENSATION

Anderson vs. Mayor, Etc., of City of Wilmington.—In order to render a city liable for injuries to a traveler by a defect in a street, it must appear that it had notice or knowledge of the defect for such time as would have been reasonably sufficient to have repaired the same or warned the public of the danger; but such notice may be either express or constructive, arising from the lapse of time. Where plaintiff and his horse sustained injuries as a result of a defect in a city street, plaintiff, if entitled to recover, was entitled to such a sum of money as would reasonably compensate him for the injuries to himself and the horse, including a reasonable compensation for plaintiff's pain and suffering, his loss of time, and expenses in endeavoring to obtain a cure.—Superior Court of Delaware.

OFFICERS—VALIDITY OF ORDINANCE

Henniger et al. vs. City of Memphis et al.—A Memphis ordinance creates a City Paymaster, to be elected by the Legislative Council; provides that all city employees shall be paid by checks drawn by the City Register and countersigned by the Paymaster; requires the Paymaster to audit bills for supplies by the city, compute the time of employees' time books, and check them with the pay rolls as filed in the Register's office; requires that a check for the total amount of a pay roll be made payable to the Register, and that it be deposited in the city depository, when signed by the Fire and Police Commissioners and the Tax Receiver, and that the employees' checks be drawn against the deposit; and provides that, on the paymaster's and Council's Auditing Committee's approval of bills for supplies, checks shall be drawn therefor, to be signed by the Commissioners and Tax Receiver. Acts 1905, amending the Memphis charter, creates a City Register; requires him to keep all the city's papers, to keep account of its transactions, and to publish financial statements; gives him such clerical assistance as the Council shall deem necessary; and requires him to give bond to account for moneys passing through his hands. Held, that the ordinance is not invalid as creating a new office; the duties required of the Register being fairly comprehended by the 1905 act, and the so-called Paymaster being in effect Assistant Register. The ordinance does not infringe Memphis Charter 1879, requiring the city's funds to be expended upon the warrants of two of the Fire and Police Commissioners, since it does not prevent the Commissioners from drawing the funds, and merely provides for their disbursement by the Register, instead of by the heads of departments as before. The ordinance does not violate Acts 1905, amending the Memphis charter, prohibiting the Council from controlling the expenditure of its appropriations.—Supreme Court of Tennessee.

EXISTENCE OF STREET

Neff vs. City of Cameron.—In an action for injuries caused by a defective sidewalk, it appeared that the street had not only been platted, but that it had been improved and treated as a public street of the city. Public work had been done on it from year to year, and it was in use as a public street for a long time before the accident. The sidewalk in question had been there for several years, and the city had assumed jurisdiction to cause it to be repaired and to reconstruct it, though for several blocks there were few houses. Held, that a public street existed.—Supreme Court of Missouri.

TAXATION OF MUNICIPAL PROPERTY

Town of Canaan vs. Enfield Village Fire District.—Under Bill of Rights, property cannot be taxed without legislative authority. After a fire district, a public corporation, the territorial boundaries of which were within the town of C., had purchased land and water rights in the town of C., for a water supply, such purchase was ratified by Laws 1903, which also provided that "all the property of said fire district used in the construction and operation of its water works shall be exempt from taxation." Held, that the property of the district in the town of C. was not taxable by such town.—Supreme Court of New Hampshire.

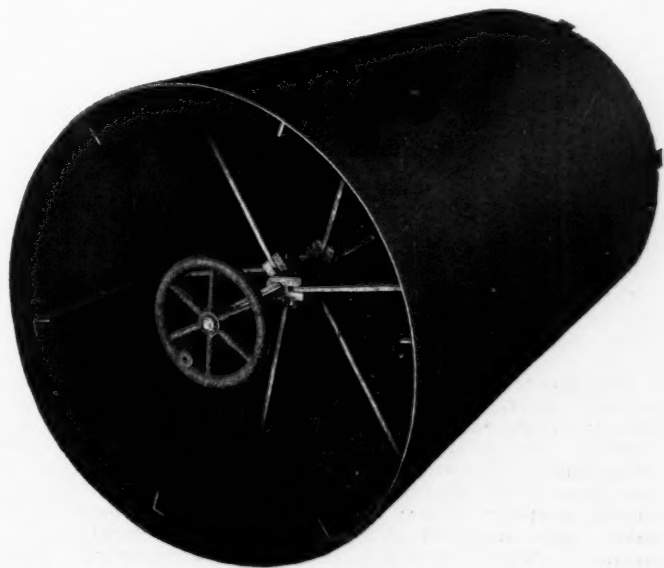
DEFECTIVE STREET—NEGLIGENCE

March et ux vs. Burgess, Etc., of Borough of Phoenixville.—Where a traveler knows of a defect in a highway, he is not necessarily guilty of contributory negligence because he uses such highway to reach his destination. Where the danger from the defects in a highway is serious, a traveler must, as a matter of law, avoid it at any inconvenience; but, if the danger is trifling, and the inconvenience of taking another way is so great that an ordinarily prudent man would not subject himself to it, it is not negligence not to do so.—Supreme Court of Pennsylvania.

MUNICIPAL APPLIANCES**Adjustable Steel Centers**

THE Adjustable Steel Centering Co., 71 South Main street, Fond du Lac, Wis., manufactures adjustable steel centers, adapted for all shapes and sizes of concrete and brick sewers, manholes, culverts, conduits, ducts, subways, pipe drains, arches and cisterns. The accompanying cut is from a photograph of a 36-inch diameter center form, 5 feet long, and shows how the center is arranged so that another section readily fits into it and locks automatically. The inside mechanism consists of a screw having right and left-hand threads on each longitudinal half, and hubs thereon threaded to fit correspondingly. Arms are pivotally connected to the hubs and at the other ends to the steel covering. When the screw is turned by the hand wheel in a certain direction each one-half of the two sets of hubs travel apart, thereby shortening the radial length of the arms, and, of course, making the diameter smaller. Turning the wheel in the opposite direction brings the hubs together, increasing the diameter of the form. The longitudinally split shell is rolled from sheet steel and bolted to the longitudinal supports, and they in turn to the outer ends of the radial arms. The supports are spaced from one end of the shell and extended at the other. The extended end is surrounded with a metal sleeve (not thus shown in the cut), so that when it is inserted in the spaced end of a second shell and expanded tight it forms a water-tight joint between shell sections. To avoid measuring diameters when setting forms a gauge ring is placed about the form, which also gives great rigidity when expanded against the rings. These latter are inexpensive, and therefore may be left in the concrete when the forms are contracted and withdrawn from the work. The forms have adjustment, while the hubs can travel along the rod; also by using other lengths of radial arms various working diameters are obtained. In operation each short shell, as a unit section, is concreted first for most of the bottom half by an operator at the front end of the form, who places the cement around the form, after which another section is set and the operator continues as before. This system eliminates the formation of voids in the bottom and facilitates the work after placing of the first section. The concreting of the balance of the full circle completes the job in one operation. These forms are of the highest value for monolithic construction. Each center is adjustable for use in smaller sizes. Thus, the 18-inch, round shape, will build continuous pipe from 18 inches to 15½ inches in diameter. The other centers have about the same range of adjustment. The company also makes centers for egg-shaped construction.

The claims made for the centers are that they leave a smooth interior surface; make better concrete than where wood centers are used; give uniform shape to the finished work; collapse without strain to the structure; admit of rapid construction; permit work to be done in winter, and may be used for various diameters of work. From the point of view of economy to the contractor, it is claimed that the molds need little repairs; require little or no skilled work; permit removal of forms when work is green; need no draftsman to make designs; save labor finishing interiors; and may be used in different diameters of work.

**ADJUSTABLE FORM FOR CONCRETE**

NEWS OF THE SOCIETIES

National Municipal League and American Civic Association.—Following the precedent established last year the Municipal League and the Civic Association will meet again in joint session; this time at the Chamber of Commerce, Pittsburg, Pa., November 17-20. George W. Guthrie, Mayor of Pittsburg, and for years an active member of the Executive Committee of the National Municipal League, is Chairman of the Committee on Arrangements. The program, which is nearly completed, will cover a wide range of subjects and include a long list of distinguished speakers. One session will be devoted to Public Utilities Commissions, with Chairman Meyers, of the Wisconsin Commission, Thomas M. Osborne, of the New York Commission, and Joseph B. Eastman, of the Boston Franchise League, as the speakers. The Conservation of Natural Resources, with special reference to scenery and those questions in which the American Civic Association is interested, will receive attention at the hands of President McFarland, of the association, and Chief Forester Gifford Pinchot, Secretary Root and Congressman Burton are expected if their public engagements will permit. The League will devote a session to Charter and Electoral Reforms, and another to considering the present status of Instruction in Municipal Government in educational institutions. Billboards, the Smoke Nuisance and the fight on flies and mosquitoes will occupy the attention of the association, as also the subject of Local Improvement, which will receive consideration at the hands of such well-known experts as Miss Mira Lloyd Dock, Mrs. C. B. Crane and Howard Evarts Weed. School Extension and Rural Improvement with O. J. Kern, L. H. Baily, D. Ward King and Kenyon L. Butterfield as the likely participants, will occupy another session. The Bureau of Municipal Research idea will be described and discussed by the Secretary of the New York Bureau, Dr. Allen, and Uniform Municipal Reporting, an essential component of the research work, will be handled by Le Grand Powers, of the Bureau of the Census, and Harvey S. Chase. Militant Citizenship will occupy a session of the League's program. There will be two leading papers and a vigorous discussion by active reformers from Boston, New York, Philadelphia, St. Louis, Cincinnati, Minneapolis and Kansas City. There will be two joint sessions. One to be devoted to A Municipal Sanitation Program; the other to The Pittsburg Survey, which has been carried on under the auspices of the Sage Foundation for a year. These two subjects of fundamental importance will be discussed at length by experts. There will be full exhibits illustrative of the Survey, of Congested Population and City Planning and improved housing conditions. These promise to be one of the most striking features of the Pittsburg conference and will be displayed throughout the meeting at the Carnegie Music Hall. Attorney General Bonaparte, the President of the League, will deliver his annual address on Wednesday evening, with Mayor George W. Guthrie, who is to speak on some of the fundamental municipal needs of Pennsylvania. There will be business sessions and addresses on various miscellaneous topics of importance, including Municipal Affairs and the Liquor Problem,

City Planning and the Playground Movement, Secretary Woodruff's annual review of municipal and civic events, a banquet, a round-table conference of City Clubs, receptions and numerous opportunities for informal conferences and exchange of views. The Secretary of the League and the Association, Clinton Rogers Woodruff, North American Building, Philadelphia, Pa., invites every individual interested in municipal affairs and every civic organization to be represented at the meeting. Logan McKee, the Secretary of the Chamber of Commerce, of Pittsburg, is in charge of the local details.

Municipal Engineers of the City of New York.—The first meeting of the Municipal Engineers after the summer recess will be Wednesday evening, September 23, at the Engineering Societies Building, 29 West Thirty-ninth street. The subject of the paper of the evening is "Bench Leveling and New York City Datums," illustrated by lantern slides by Mr. Charles Goodman, Assistant Engineer Board of Water Supply.

Playground Association of America.

—With hundreds of delegates in attendance, representing nearly every city of importance in the United States, the Playground Association of America began September 8 at the American Museum of Natural History, New York City, its second annual Congress with a session full of interest and action. The association had not been in session fifteen minutes before the question of woman's place in directing playgrounds was brought into the discussion, and, though there were many women present, it was evidently the consensus of opinion that boys should be managed by men. Some saw in this tacit agreement new strength for the contention of many that it makes boys effeminate to be taught by women. The first session was a lively one. William J. McKiernan, Playground Commissioner of Newark, N. J., started things going by declaring that there were "inefficient men and women, human moths, fakirs and parasites" in the playground movement in this city, his own city of Newark, and in all the other communities of the country which had such enterprises. Though Charles A. McCall, Director of the Newark Municipal Camp, had said in the afternoon in answer to a question from the floor that politics had not greatly hurt the Newark camp, Mr. McKiernan declared that this camp had been "a plaything of the politicians" from the very beginning. Dr. Henry S. Curtis, of Washington, D. C., started the discussion, on the fitness of women as playground directors at the morning session. Mrs. George Frame, of Baltimore, contended that women had been as successful as men in this work. "It is a great field for women," she said, "and her influence over boys would be of very great value." Several other women doubted the wisdom of putting women over boys as their athletic instructors. "State Laws" was the subject of another conference, of which Joseph Lee, the Boston philanthropist and playground founder, was the leader. He made a plea for legalizing play in the streets. "There are laws," said he, "legalizing automobile hill-climbing contests. Now why should it not be legal to coast in the streets? The automobile has its privileges, why should not the small boy? People seem to be contented with a large mortality from automobiles, why should they be so opposed to a mortality of window panes?"

League of Wisconsin Municipalities.

—The annual convention met September 2 at Oconomowoc. Among the papers presented were the following: "Public Utilities," by Prof. B. H. Meyer, Chairman of the State Railroad Commission; "Parks and Playgrounds for Children," by Mayor Burt Williams, of Oconomowoc; "Municipal Humanitarianism," by Mrs. A. W. Bartholomew, of Racine. Marinette was selected as the next convention city. The officers elected for the coming year are as follows:

President, Henry W. Bolens, Port Washington.

Vice-President, Mayor J. C. Schubert, Madison.

Secretary and Treasurer, W. G. Kirchoffer, Madison.

District Vice-Presidents, Mayor Horlick, of Racine; Mayor Koch, Berlin; Byron Randolph, Reedsburg; E. T. Melms, Milwaukee; Henry Smith, Milwaukee; former Mayor Carrington, Waupun; John Doherty, La Crosse; J. B. Laun, Kiel; Mayor Fisher, Marinette; Mayor Roddis, Marshfield; Mayor Crumpton, Superior.

Executive Committee—Mayor Currens, Two Rivers; Mayor Burt Williams, Ashland; M. A. Douglas, Monroe; H. C. Thuesdell, Berlin.

Ontario Municipal Association.

—At a meeting of the Association, Toronto, September 3, a number of resolutions were acted on. It was decided that it was not advisable for that body to recommend any change in the system of municipal auditing. Resolutions were carried in favor of the construction of a provincial police force and urging that a strong stand should be taken in favor of the thorough enforcement of railway taxation. The association supported a proposal that the qualifications of a candidate for the position of school trustee should be the same as those for a member of the Council, and the option should be given to elect them by the general vote, with the assent of the electors. A motion that no member of a joint stock company doing business with a Council should be allowed to become a member of that Council was defeated. A motion in favor of the amendment of the Municipal Act to exempt municipalities from liability for damages as the result of accidents on the highways was carried. Controller Hopwell, of Ottawa, introduced a resolution proposing that legislation should be asked for to provide that no municipal franchise involving the use of the public streets should be granted except on a vote of the property owners, but it was lost. A resolution was carried in favor of repeal of the Conmee Act.

Calendar of Meetings

September 15-17.

Central Water Works Association.—Twelfth Annual Convention, Monongahela House, Pittsburg, Pa.—Wm. Allen Veach, Secretary, Newark, O.

September 16-18.

League of Iowa Municipalities.—Eleventh annual convention, Ottumwa, Ia.—Frank G. Pierce, Marshalltown, Secretary-Treasurer.

September 21-October 12.

National Association for the Study and Prevention of Tuberculosis.—International Congress, Washington, D. C.—Dr. Henry Barton Jacobs, Secretary, Baltimore, Md., Dr. Joseph Walsh, Philadelphia, Pa. Special Secretary of the Committee on the International Congress.

September 22-24.

National Association of Comptrollers and Accounting Officers.—Thirteenth annual convention, Seelbach Hotel, Louisville, Ky.—Howard C. Beck, Secretary, 61 McGraw Building, Detroit, Mich.

September 23.

Municipal Engineers of the City of New York.—Regular meeting, Engineering Societies Building, 29 West Thirty-ninth street.—C. D. Pollock, Secretary, 29 West Thirty-ninth street, New York City.

September 23-25.
New England Water Works Association.—Annual convention, Atlantic City, N. J.—Willard Kent, Secretary, Narragansett Pier, R. I.

September 24.
Illinois Mayors' Association.—Third annual convention, La Salle.

September 28-October 1.
Pacific Coast Association of Fire Chiefs.—Annual convention, Victoria, B. C.—William Metz, Chief Fire Department, Walla Walla, Wash., President.

September 30-October 2.
League of American Municipalities.—Twelfth annual convention, Omaha, Neb.—John MacVicar, Secretary, Des Moines, Ia.

September 29-30.
American Public Works Association.—Annual meeting, Asheville, N. C.

September 10-12.
New Jersey State Firemen's Association.—Annual meeting, Atlantic City, N. J.—William Exall, Secretary, 11 Howard street, Newark, N. J.

October 5-6.
Illuminating Engineering Society.—Second annual session, Hotel Walton, Philadelphia, Pa.

October 7.
American Society of Civil Engineers.—Regular semi-monthly meeting, Society House, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.

October 7.
Empire State Gas and Electric Association.—Annual meeting, United Engineering Societies Building, 29 West Thirty-ninth street.—Charles H. B. Chapin, 154 Nassau street, New York City, Secretary.

October 8-10.
Kansas Gas, Water and Electric Light Association.—Annual meeting, Pittsburg, Kan.—J. D. Nicholson, Newton, Kan., Secretary.

October 11.
International Roads Congress.—First convention, Paris, France.—President Letthier, l'Inspecteur General des Ponts et Chaussees.

October 12-17.
American Street and Interurban Railway Association.—Twenty-seventh annual meeting, Atlantic City, N. J.

October 20-23.
American Society of Municipal Improvement.—Fifteenth annual convention, Hotel Dennis, Atlantic City, N. J.—A. Prescott Folwell, Secretary, 239 West Thirty-ninth street, New York City.

November 17-20.
National Municipal League.—Annual meeting, Pittsburg, Pa.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.

***American Civic Association.**—Annual Meeting, Pittsburg, Pa.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.

PERSONALS

ACKERMAN, J. WALTER, M. Am. Soc. C. E., Auburn, N. Y., formerly City Engineer of Auburn, recently resident engineer of the New York, Auburn & Lansing R. R. and the Ithaca Street R. R., has resigned the latter position and been appointed Superintendent of the Auburn Water Works.

BOLLSCHWEILER, A., Mayor of Perth Amboy, N. J., was recently run down and slightly injured by an automobile. The same day Health Inspector Samuel T. Frost, of the same city, was also struck by an automobile and knocked down.

BOWMAN, JOHN B., Mayor of Waverly, Tenn., has resigned office to accept that of Attorney General of the Ninth Judicial Circuit. Alderman Hart will act as Mayor until election.

BRUCE W. CABELL, City Solicitor of Baltimore, Md., has resigned his post to take up again the practice of law. Deputy Solicitor Edgar Allen Poe has been named as his successor.

BUSSE, FRED, Mayor of Chicago, Ill., witnessed the launching of the new fire tug for the city at Manitowoc, Wis. Fire Chief Horan and other officials were also present.

CANTERBURY, GEORGE, Foreman for the Department of Public Works, Scranton, Pa., is to be placed in charge of the two newly built garbage plants.

DAVIS, JOS. L., Owensboro, Ky., has been made Chief of Fire Department.

EDGERTON, H. H., Mayor of Rochester, N. Y., received an engraved scroll from the local union of electrical workers in appreciation of his work in settling the recent strike.

GODFREY, J. H., Anderson, S. C., has been elected City Clerk of Piedmont, W. Va.

GROVER, ABRAHAM L., a patrolman of the Lynn, Mass., force, has been appointed Deputy Supervisor of Spankings, ordered by the judge to be given to convicted youths by their respective parents.

HARDY, JOHN D., former Superintendent of Water Works of Holyoke, Mass., is a candidate for the position of Water Commissioner.

HOGAN, WILLIAM, Freeholder, Jersey City, N. J., has been appointed General Inspector of Public Works.

HOLMBOE, J. A., Consulting Engineer, Louisville, Ky., has withdrawn from all connection with the construction of the Versailles, Ky., Water Works Plant.

LIGHTSTON, J. L., City Treasurer of San Jose, Cal., took the oath of office and has entered on his duties.

LUDLOW, J. S., Expert Appraiser, Knoxville, Tenn., finished his work of appraising Chattanooga Water Company's plant and will make report in a short time.

LUSK, HARRY, Mayor of New Castle, Pa., has returned with his wife from Geneva, O., where he has been spending the past three weeks.

MANSON, MARSDEN, City Engineer of San Francisco, Cal., with eleven members of Board of Supervisors and other city officials and friends, recently took a ten-day trip into the regions of Lake Eleanor and Hetch Hetchy Valley for the purpose of inspecting the proposed source for San Francisco's water system.

MILEY, ELIJAH, member of the City Council of Petersburg, Ind., was struck by lightning and rendered unconscious during a recent storm at Petersburg.

PRAGER, J. D., Landscape Gardener of San Francisco, Cal., has been employed by the city to arrange plans for parks on the shores of Lake Merritt.

RANDALL, E. H., Fredericksburg, Va., has been elected City Surveyor.

RICHARDSON, CLIFFORD, of New York, has been appointed by Governor Hughes a delegate from New York State to the First International Road Congress. Mr. Richardson has received a similar appointment from President Roosevelt and from the American Society of Civil Engineers.

SHEARER, W. H., City Engineer of Anderson, S. C., has been re-elected by the City Council. Chief of Police L. M. Murphy and Street Overseers J. C. Gilmer and W. F. Edwards were the other appointees.

VAN VOAST, HORACE S., Mayor of Schenectady, N. Y., and other city officials were entertained on the tract known as the Boulevard Home by the improver and owner, W. Garner Bee.

VOCK, D. J., County Surveyor, Co-shocton, O., is taking charge of the paving and engineering in New Lexington, O.

WERK, F. C., engineer and contractor of Cleveland, O., has been engaged by the City Council of Lorain, O., to draw up plans for a municipal lighting plant.

WHISTLER, JOHN T., M. A. S. C. E., Portland, Ore., has resigned from the United States Reclamation Service and opened an office in the Chamber of Commerce Building, Portland, Ore.

WHITE, M. J., Superintendent of the Construction Work on the big water main at Lockport, N. Y., finished his work and left for Pittsburg, Pa.

SHANER, H. L., Lynchburg, Va., has been re-elected City Engineer.

TRADE NOTES

Cast Iron Pipe.—Chicago: No more large contracts are expected to be closed this year, but many small municipal orders ranging from 200 to 500 tons are expected. Quotations: 4-inch, \$27; 6 to 12-inch, \$26; 16-inch and up, \$25. Birmingham: There has been a decided reduction in stocks and preparations are being made for a resumption of operations by a number of idle plants. Quotations: 4 to 6-inch, \$23; 8 to 12-inch, \$22; over 12-inch, average, \$21. New York: New business is light. Quotations: 6-inch, \$23.50 to \$24, in car load lots at tidewater.

Pig Lead.—No change in prices, market firm. Prices: New York, 4.60 cents; St. Louis, 4.45 cents to 4.50 cents.

Garbage Litigation.—Judge Brown, of the Common Pleas Court, has rendered a decision to the effect that the city of Dayton, Ohio, must comply with its ten-year contract made with the Dayton Reduction Company for the disposal of all of its garbage. The Court also held that the city must haul all of its garbage to an unloading station one and a half miles from the intersection of Third and Main streets in the direction of the reduction plant, which is located in the extreme East End. The Court decided all questions except as to the damages sustained by the reduction company, which claimed it had suffered heavy loss by the municipality's refusal to carry out the contract. The matter of damages was placed in the hands of Frank Conover, as Master Commissioner.

Large Cement Order.—The city of Havana, Cuba, has awarded a contract aggregating 1,100,000 barrels of cement to the Bath Portland Cement Company, of Allentown, Pa. Next to the order awarded a few weeks ago by the Panama Canal Commission to the Atlas Cement Company, this is the largest foreign order for American cement. It came in the shape of a cablegram from the Governor General of Cuba to Frederick Franks, Manager of the Bath Portland plant, with a request that he make arrangements to ship as quickly as possible. While most of the cement will go into the municipal sewerage system and other improvements at Havana, part of it will be used for the construction of a cement plant in Cuba by a company organized by Sir William Van Horn.

Big Bond Issue.—One of the largest increases of stock in a long time by a Pennsylvania corporation was filed at the Pennsylvania Capitol by the Luzerne County Electric and Gas Company, of Wilkes-Barre. It sets forth intention to issue \$3,500,000 bonds.

Dallas Gas Co.—As a result of the inquiry by Assistant Attorney-General Hawkins and the Dallas Municipal Commission into the affairs of the Dallas Gas Co., Mr. Hawkins has filed suit in the name of the State of Texas, asking for penalties to the extent of the cancellation of \$600,000 worth of stock and bonds issued, it is asserted, illegally. The city authorities have papers nearly completed to sue for forfeitures of the charter of the company. New York men own the Dallas Gas Co. property.

New Office.—The Crocker-Wheeler Company, Ampere, N. J., has opened a new office in the Gumbel Building, Kansas City, Mo., for the sale of C-W motors, dynamos, transformers, switchboards, etc. The office is in charge of A. W. Paine, who will give personal attention to business in that section.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Illinois.....	Downers Grove..	Sept. 17, 8 p.m.....	Brick paving, 45,595 sq. yds.; comb. curb and gutter, 33,196 lin. ft.; earth exc., 29,563 cu. yds.; 116 inlets, 66 storm and sanitary manhole covers to grade, etc.....	J. S. Losier, Village Eng'r.
Illinois.....	Chicago.....	Sept. 17.....	Macadam pavement on Ceylon avenue.....	John J. Hanberg, Com'r Pub. Wks.
Wisconsin.....	Tomah.....	Sept. 17, 2 p.m.....	Constructing brick pavement.....	D. J. Aller, City Clerk.
New Jersey.....	Newark.....	Sept. 17, 3:30 p.m.....	Furn. material and repaving Market St., 22,500 sq. yds. wood block on concrete; 7,000 ft. granite curb, etc.....	M. R. Sherrerd, St. and Water Bd.
New York.....	New York.....	Sept. 17, 2 p.m.....	Paving and repaving rock asphalt mastic walks, Central Park..	Henry Smith, Pres. Park Bd.
Ohio.....	Upper Sandusky.	Sept. 18, noon.....	Grading and stoning 2 roads.....	J. N. Traxler, Co. Auditor.
Indiana.....	Huntington.....	Sept. 18, 2 p.m.....	Constructing gravel road, 15,432 ft. long, 22 ft. wide.....	John W. Weaver, County Auditor.
Indiana.....	Bluffton.....	Sept. 18, 7:30 p.m.....	Improving Indiana street.....	Frank S. Smith, City Council.
Illinois.....	Chicago.....	Sept. 18.....	Paving portions of Canal St. with No. 2 granite block.....	John J. Hanberg, Com'r Pub. Wks.
Wisconsin.....	Beloit.....	Sept. 18, 10 a.m.....	Improving sundry streets.....	J. L. Hendley, Chm. Bd. Pub. Wks.
North Carolina.....	Canton.....	Sept. 19.....	Macadamizing roads and constructing sidewalks.....	J. W. Scott, Town Clerk.
Ohio.....	Cleveland.....	Sept. 19, 11 a.m.....	Grading and draining Canal Road in Newberg Hts.....	A. B. Lea, County Surveyor.
Wisconsin.....	Tomah.....	Sept. 19, 2 p.m.....	Furn. material and brick paving and appurtenances.....	R. E. Kyle, Chm. Com. Pub. Wks.
Ohio.....	Tiffin.....	Sept. 19.....	Brick asphalt paving, etc., N. Sandusky St.....	City Auditor.
Ohio.....	Canfield.....	Sept. 21, noon.....	Laying sidewalks and furnishing material.....	J. R. Taber, Village Clerk.
Utah.....	Ogden.....	Sept. 21, 8 p.m.....	Building sidewalks in Sidewalk Dist. No. 18, Ext. 3.....	A. F. Parker, City Engineer.
Virginia.....	Soldiers' Home..	Sept. 21.....	Concrete paving, 260 sq. yds., etc.....	John P. Hume, Treasurer.
Hew Hampshire.....	Concord.....	Sept. 21, 5 p.m.....	Bldg. gravel roads in E. Kingston and Madbury.....	A. W. Dean, State Eng'r.
Wisconsin.....	Watertown.....	Sept. 21, 2 p.m.....	Improving public alley in Block No. 11, east side Rock river....	Fred C. Werner, Chm. Bd. Pub. Wks.
Ohio.....	Columbus.....	Sept. 22, noon.....	Grading and macadamizing, 155 miles road, Lima twp.....	Jas. C. Wonders, State Hwy. Com.
New York.....	L. I. City, N. Y..	Sept. 22.....	Removing 15,500 sq. yds. old stone block and relaying same; 18,405 lin. ft. old curb, redress and reset, manholes, etc., to grade.....	Lawrence Gresser, Boro. Pres.
Illinois.....	Mattoon.....	Sept. 22.....	Brick paving, concrete curb and gutter, 14th St.; \$7,000.....	C. L. James, City Engineer.
Missouri.....	St. Louis.....	Sept. 22.....	Improving 3 1-2 miles of alleys; cost, \$75,000.....	A. J. O'Reilly, Pres. Bd. Pub. Imp.
Indiana.....	Peru.....	Sept. 23, noon.....	Grading, paving and culverting 7 roads, in 3 twps.....	Chas. Griswold, Co. Auditor.
Indiana.....	Muncie.....	Sept. 25.....	Resurfacing streets with brick; cost, \$8,000; new bids.....	J. A. Jackson, City Clerk.
Ohio.....	Cincinnati.....	Sept. 25, noon.....	Improving Rich road; specifications No. 788.....	Stanley Struble, Pres. Co. Com'rs.
Ohio.....	Scio.....	Sept. 27.....	Paving 18,000 sq. yds.; J. C. Overmeyer, Fremont, Eng'r.....	Village Clerk.
Massachusetts.....	Port Andrews.....	Sept. 28, 10 a.m.....	Bldg. macadam roads, concrete walks, etc.....	Capt. Ira L. Fredenhal, Q. M.
Indiana.....	Frankfort.....	Sept. 29.....	Constructing 25 district gravel roads.....	Clinton County Com'rs.
Ohio.....	Scio.....	Sept. 29, noon.....	Brick paving, 18,000 sq. yds., curb, drains, etc.....	Harry E. Johnson.
Virginia.....	Portsmouth.....	Sept. 29, 8 p.m.....	Paving 14,700 sq. yds., any material; 7,800 ft. 5-in. granite curb.	Bascom Sykes, City Engineer.
Ohio.....	Fostoria.....	Oct. 2.....	Grading, etc., mile of 2 roads, London twp.....	J. P. Dreitzel, Clk. London Twp.
Ohio.....	Carthage.....	Oct. 10, noon.....	Grading, draining, etc., Fair Grounds, inc. 9,456 cu. yds. grading, 1,035 ft. 15-in. sewer pipe, 845 ft. 12-in., etc.....	Hamilton Co. Agr. Soc., Wiggins Block, Cincinnati.
WATER SUPPLY				
New York.....	New York.....	Sept. 17, 3 p.m.....	Furn. material and labor for laying water pipe in 5 Bronx parks.	Henry Smith, Pres. Park Board.
Illinois.....	Pittsfield.....	Sept. 17.....	Furn. and install. 57,000-gal. cent. pump plant; furn. c.i. pipe and specials, f.o.b. cars Newark, inc. 90 tons 8-in., 35 tons 12-in., 1,100 tons 16-in., 80 tons 20-in. special hub pipe; 30,000 lbs. specials to order without wrought iron bands on hubs; 70,000 lbs. with bands.....	M. R. Sherrerd, Ch. Eng'r St. and Water Board.
South Dakota.....	Platte.....	Sept. 18.....	Bldg. 60,000-gal. steel tank and tower; also 11,424 ft. 4-8-in. pipe.....	W. F. Van Der Voort, City Aud.
Quebec.....	Montreal.....	Sept. 18.....	Bldg. concrete well and rein. concrete double conduit to pump..	Geo. Janin, Supt. Water Works.
Texas.....	Austin.....	Sept. 19.....	Bldg. 89 x 64 x 35 ft. concrete-steel addition to pumping station.	Water, Light and Power Com'rs.
South Dakota.....	Aberdeen.....	Sept. 21, 8 p.m.....	Constructing 8-in. artesian well.....	F. W. Raymond, City Auditor.
Ohio.....	Pleasant Hill.....	Sept. 21.....	Constructing water works, to cost \$16,000.....	A. C. Reed, Engineer.
Ohio.....	Cincinnati.....	Sept. 22, noon.....	Construction and del. of machine tools and other appurtenances for pumping stations, filter plant and intake pier.....	Elmer G. Prior, Clk. W. W. Com'rs.
Pennsylvania.....	Reading.....	Sept. 22, 7:30 p.m.....	Constructing slow sand filters for Maiden Creek supply.....	L. S. Ramsey, Sec'y Water Board.
New York.....	Shortsville.....	Sept. 22, 8 p.m.....	Constructing complete water works system, inc. 3 1-2 miles 10, 8, 6-in. c. i. pipe; elev. tank; dup. pumping plant, triplicate pumps with gaso. or elec. power; Col. well and pump house....	S. L. Heath, Village President.
Minnesota.....	Keewatin.....	Sept. 22.....	Constructing water works.....	P. A. McEachin, Village Recorder.
Ohio.....	Cincinnati.....	Sept. 25, noon.....	Furn. lime and sulphate of iron for filtration plant.....	Aug. Herrmann, Pres. Com. W. W.
California.....	Oakland.....	Sept. 23, 11 a.m.....	Bldg. pumping station for high-pressure fire system.....	W. B. Fawcett, Sec'y B. P. W.
New York.....	New York.....	Sept. 23, 2 p.m.....	Furn. double-nozzle hydrants; bldg. 2 brick chimneys.....	John H. O'Brien, Com'r W. S., G. & E.
Minnesota.....	Albert Lea.....	Sept. 28, 8 p.m.....	Constructing 2,700 ft. 6-in. water mains.....	Wm. Barneck, City Eng'r.
Minnesota.....	Bemidji.....	Sept. 28, 8 p.m.....	Bldg. 120-ft. steel tower and 100,000-gal. tank.....	M. D. Stoner, City Engineer.
Kansas.....	Winfield.....	Sept. 30, 3 p.m.....	Furn. material and install. water works; 4 separate bids.....	Chas. M. Wallace, Mayor.
New Jersey.....	Haddonfield.....	Oct. 1.....	Bldg. new municipal water plant; well supply; cost, \$100,000..	Councilman Brown, Chm. Com.
Louisiana.....	Harrisonburg.....	Oct. 5.....	Drilling 4-inch artesian well.....	H. W. Bethard, Sec'y Police Jury.
Arkansas.....	Hope.....	Oct. 6.....	Furn. mat. and bldg. water system, inc. 70 x 35 x 12-ft. rein. concrete reservoir; 900 tons c. i. pipe, hydrants, etc.....	E. S. Greening, Jr., Sec. W. W. Dist. No. 1.
Indiana.....	Evansville.....	Oct. 12, 7 p.m.....	Constructing municipal filter plant; cost, \$225,000.....	W. M. Madden, Clk. Water Board.
Brit. Columbia.....	Vancouver.....	Oct. 14, 4 p.m.....	Supplying c. i. pipes, steel pipes, and Ludlow Water Hydrants.	W. McQueen, City Clerk.
New York.....	Cohoes.....	Nov. 2.....	Plans, specifications and estimate of mechanical filtration plant.	A. T. Kniffin, Supt. W. W.
New Jersey.....	Passaic.....	Oct. 30, 8 p.m.....	Laying dis., etc., 37 miles 6 to 20-in. pipe, hydrants, etc.; furn. and delivering same; furn. new water supply, 3 to 12,000,000 gals. per day from wells or surface streams.....	Geo. K. Rose, Chm. Water Com.
SEWERAGE				
New York.....	Brooklyn.....	Sept. 16, 11 a.m.....	Bldg. sewers, E. 98th St., Secs. 1 and 2; also sewer 85th St.....	Bird S. Coler, Boro. Pres.
New York.....	Amsterdam.....	Sept. 16, 8 p.m.....	Bldg. complete, sewers in sundry sts.....	A. T. Young, Sec'y Sewer Com'rs.
New York.....	New York.....	Sept. 17, 2 p.m.....	Bldg. sewers, also furn. cement, manholes, etc.....	John F. Ahearn, Pres. Boro. Maa.
Wisconsin.....	Two Rivers.....	Sept. 18.....	Constructing sewers in certain streets.....	Wm. Luebke, Clk., Bd. Pub. Wks.
Washington.....	Seattle.....	Sept. 19.....	Bldg. \$10,000 North trunk sewer, 108-in., 30, 18-in. sewer, etc..	R. H. Thomson, City Eng'r.
Iowa.....	Cedar Rapids.....	Sept. 20.....	Bldg. pipe sewers in 8th Ward; cost, \$1 per foot.....	L. J. Storey, City Clerk.
New Jersey.....	Hoboken.....	Sept. 23, 8 p.m.....	Building ten new receiving basins.....	James H. Londrigan, City Clerk.
Kansas.....	Ft. Leavenworth	Sept. 23, 11 a.m.....	Bldg. 960 ft. 6-in. sewer, 2 manholes, etc.....	Capt. Wm. D. Davis, Q. M.
Dist. of Col'bia.....	Washington.....	Sept. 28, noon.....	Re-bldg. portions Rock Creek and B st., intercepting sewer....	Jay J. Morrow, Eng'r Com'r.
Ohio.....	Jackson.....	Sept. 28, noon.....	Bldg. 1.4 miles main sanitary sewer; estimate, \$10,000.....	J. W. Turner, Village Eng'r.
Pennsylvania.....	Norristown.....	Sept. 30, 8 p.m.....	Bldg. sanitary sewers; 28,837 ft. 8-in., 2,425 ft. 10-in., 1,476 ft. 12-in., 11,000 ft. 8-in. laterals; 123 manholes, 34 flush tanks..	S. Cameron Corson, Boro. Eng'r.
Arkansas.....	Hope.....	Oct. 6.....	Furnish. material and installing sanitary sewer system.....	J. A. Danberg, Jr., Goodwyn Bldg.
Ohio.....	Corlett.....	Oct. 6, noon.....	Constructing sewers in three streets.....	Memphis, Tenn., Eng'r.
Arkansas.....	Newport.....	Nov. 1.....	Constructing \$40,000 sewerage system.....	H. W. Jantzen, Village Clerk.
Ecuador.....	Guayaquil.....	December 1.....	Constructing sewerage system.....	Lund & Hill, Little Rock, Eng'rs.
				Int. Bur. of Am. Rep., Wash't'n, D. C.

BRIDGES

Oklahoma.....	Stillwater.....	Sept. 17, 6 p.m.....	Bldg. 380 ft. suspension or truss bridge; also four 60 and 75-ft. steel bridges and other bridge work.....	J. H. Donart, County Clerk.
Ohio.....	Mt. Gilead.....	Sept. 17, 11:30 a.m.....	Bldg. 40-ft. span Fate bridge, with 16-ft. roadway.....	W. C. McFarland, Co. Auditor.
Idaho.....	Post Falls.....	Sept. 17.....	Bldg. \$12,000 steel bridge over Spokane river.....	County Com'rs, Rathdrum.
New Jersey.....	Jersey City.....	Sept. 17.....	Bldg. bridge over Hackensack River at W. Newark Ave.....	Walter O'Mara, Clerk Freeholders.
Pennsylvania.....	Reading.....	Sept. 18, 10 a.m.....	Bldg. re-in. concrete arch bridge, Robeson Township.....	A. L. Rhoads, County Contr.
Wisconsin.....	Port Atkinson.....	Sept. 18.....	Bldg. 300 ft. plate girder bridge; also bridge on bidders plans, etc.; also 3 pairs tubular piers.....	Giles Hibbard, Clerk Bd. Pub. Wks.
Ohio.....	Troy.....	Sept. 21, 10 a.m.....	Bldg. rein. concrete or steel bridge in Piqua, 27 ft. long, 26-ft. roadway; 150 lbs. live load; perm. floor system.....	E. E. Pearson, Co. Auditor.
California.....	Los Angeles.....	Sept. 21, 2 p.m.....	Bldg. 600 ft. steel trestle or rein. concrete bridge.....	C. G. Keyes, County Clerk.
Ohio.....	Mt. Vernon.....	Sept. 21.....	Bldg. substructure of Allen bridge, Howard twp.....	C. A. Mitchell, Co. Auditor.
Pennsylvania.....	West Chester.....	Sept. 23, noon.....	Bldg. rein. concrete bridge at Waterloo Mills.....	Wm. Stevens, Chm., Co. Com'rs.
Pennsylvania.....	Washington.....	Sept. 23, noon.....	Bldg. plate girder bridge 63.5 ft. long, 18 ft. wide.....	Wm. Wylie, County Engineer.
Ohio.....	Cincinnati.....	Sept. 25, noon.....	Bldg. bridge over So. Fork, Taylor's Creek, Green twp.....	Fred. Dreih, County Clerk.
Ohio.....	Cleveland.....	Sept. 26, 11 a.m.....	Bldg. bridge abutments, report 2,031, Olmstead twp.....	A. B. Lea, County Surveyor.
Pennsylvania.....	Norristown.....	Sept. 26.....	Constructing iron and concrete bridge over Stony Creek.....	Clerk, County Com'rs.
Ohio.....	Phil.....	Sept. 28, noon.....	Bldg. concrete abutment at West end swing bridge.....	L. E. Brelsford, County Aud.
Ohio.....	St. Clairsville.....	Sept. 28, 1 p.m.....	Bridge work for County.....	A. W. Beatty, County Auditor.
Minnesota.....	Little Falls.....	Sept. 29, 1 p.m.....	Bldg. bridge over Crow Wing river, with plans, etc.....	Wm. A. Butler, County Auditor.
Ohio.....	Cleveland.....	Sept. 30, 11 a.m.....	Bldg. concrete bridge, also concrete culvert.....	A. B. Lea, County Surveyor.
New York.....	Albany.....	Oct. 1, noon.....	Bldg. 5 steel superstructures for highway bridges.....	F. C. Stevens, State Supt. Pub. Wks.
Kentucky.....	Stanford.....	Oct. 1.....	Bldg. iron or steel bridge, two 32-ft. spans, 16 ft. wide.....	G. B. Cooper, County Clerk.
Ohio.....	Cincinnati.....	Oct. 1, noon.....	Improving Eighth St. viaduct; \$1,000 check.....	John J. Wenner, Clk. Bd. Pub. Ser.
Oklahoma.....	Pawhuska.....	Oct. 5, 3 p.m.....	Bldg. 7 highway bridges.....	W. M. Sloan, County Clerk.
Texas.....	Austin.....	Oct. 5, noon.....	Bldg. rein. concrete bridge of most modern type.....	John W. Hornsby, County Judge.
Ontario.....	L'Orignal.....	Oct. 6, noon.....	Bldg. 115-ft. iron span; also concrete or stone work.....	Abbott Johnson, County Clerk.
Dist. of Col'bia.....	Washington.....	Oct. 8, 11 a.m.....	Bldg. single-leaf railway rolling lift bridge at navy yard.....	R. C. Hollyday, Navy Dept.

LIGHTING AND ELECTRICITY

New York.....	New York.....	Sept. 17, 3 p.m.....	Furn. 7 elec. motors and cables, Mus. Nat'l History.....	Henry Smith, Pres. Park Board.
Indiana.....	Darlington.....	Sept. 18.....	Constructing \$3,000 electric light plant.....	N. A. Boehr, City Clerk.
Illinois.....	Chicago.....	Sept. 18, 11 a.m.....	Bldg. 16, 10, 8, 6, and 4-duct underground conduit system.....	Wm. Carroll, City Electrician.
Texas.....	Austin.....	Sept. 19, noon.....	Bldg. rein. concrete pumping station, 89x63½x34 ft.; also foundations for 2 pumping engines, etc.....	Geo. L. Hume, Pres. Lt. & Power Com'n.
Ohio.....	Xenia.....	Sept. 19, noon.....	Furn. material and building new power plant; remodeling lighting and water system at Soldiers' Home, etc.....	Col. J. C. Roland, Sec'y S. & S. Home.
Washington.....	Tacoma.....	Sept. 19.....	Water power, electric light and power plant.....	H. J. McGregor, Com'r Pub. Wks.
Tennessee.....	Chattanooga.....	Sept. 22, 2:30 p.m.....	Furn. and installing light fixtures for new City Hall.....	H. F. Van Dusen, Chm. B. P. Wks.
Ohio.....	Portsmouth.....	Sept. 24, noon.....	Lighting streets, alleys, etc., for 3, 6 or 10 years.....	M. W. McMahon, Clk. B. P. S.
Illinois.....	Chicago.....	Sept. 24.....	Furn. and installing electric machinery and turbine waterwheel.....	I. J. Bryan, Clk. Bd. Trus. San. Dist.
Dist. of Col'bia.....	Washington.....	Sept. 24.....	Furn. dynamos for Isthmian Canal Com.....	Capt. F. C. Boggs, U. S. Army.
Iowa.....	Hartley.....	Sept. 24.....	Installing electric light plant, inc. gas producer, gas engine, dynamos, switch board, storage battery and pole lines.....	E. B. Rich, Ft. Dodge, Engineer.
Ohio.....	Minerva.....	Sept. 24, 7 p.m.....	Furn. 150 h. p. boiler, 150 lbs. steam pressure for light plant.....	L. E. Weber, Sec'y Bd. Pub. Serv.
Ontario.....	Toronto.....	Sept. 28, 6 p.m.....	Installing transpower equipment.....	Adam Beck, Hwy. Elec. Pwr. Com.
Wisconsin.....	Cashton.....	Oct. 1.....	Constructing \$10,000 electric light plant.....	S. G. Reque, Westby, Eng'r.
Porto Rico.....	Ponce.....	October 15.....	Constructing electric light plant; approx. surface, 134 hectares; length of sts., 34 kilo.; approx. \$18,000 to \$25,000, 70 arc lights, 6 amp.; 20 incan. 187 watts; 300 of 32 c.p., 100 18-c.p. 1,500 to 2,000 kilo. for pub. bldgs.....	Blass C. Silva, City Engineer.

MISCELLANEOUS

Illinois.....	Chicago.....	Sept. 21, 11 a.m.....	Furn. labor and material for placing street signs in district bet. Chicago Ave., Lake Mich.; 12th St. and Halsted Sts.....	Wm. Carroll, City Electrician.
Ohio.....	Cincinnati.....	Sept. 21.....	Sale of stone in walls of 3d st. reservoir; \$5,000 check.....	Board of Public Service.
New Jersey.....	Hoboken.....	Sept. 23, 8 p.m.....	Removal of ashes, garbage, rubbish, street sweepings, etc., of city for one year, beginning Sept. 25.....	James H. Londrigan, City Clerk.
Dist. of Col'bia.....	Washington.....	Sept. 24.....	Furn. hose for Isthmian Canal Commission.....	Capt. F. C. Boggs, U. S. Army.
New York.....	Buffalo.....	Sept. 24.....	Coal and ash handling equipment for pumping station.....	F. G. Ward, Com'r Pub. Wks.
Maryland.....	Baltimore.....	Sept. 25, 11 a.m.....	Competitive designs for truck house.....	Edw. D. Preston, Insp. of Bldgs.
Dist. of Col'bia.....	Washington.....	Sept. 28, 10:30 a.m.....	Elec. incan. ry., inc. 15,600 ft. track, 12 elec. locos., 24 cars.....	Purchasing Of. Isth. Canal Com'n.
Arkansas.....	Harrisburg.....	October 5.....	Plans, etc., for Boone County Court House.....	J. B. Curnutt, R. F. D. No. 2.

STREET IMPROVEMENTS

Birmingham, Ala.—Council is interested in a new road which it has been planned to construct from Florida avenue to the mountain on St. Charles street.

Napa, Cal.—At a special meeting of Council it was decided to at once lay as an experiment petroliithic pavement on Main street, from First to Third; this character of street work is now being carried on in Vallejo and other cities, and is proving a big success.

San Jose, Cal.—Resolutions of intention were adopted by Council providing for the construction of artificial stone sidewalks on Market street, between San Carlos and South First streets; Second street, between Martha and Keyes; Fourth street, between Santa Clara and St. John, and William street, between First and Market streets.

The City Engineer has prepared plans and specifications for the improvement of Empire street, First to Fourth; Hensley avenue, First to Fourth; Julian, Market to Fourth; Devine, Market to First; St. James, Third to Fourth; St. John, Third to Fourth; Old Market street, Julian to Bassett; Second, Empire to St. James; Third street, Empire to Julian; Fourth, Empire to Santa Clara, said improvement to be of the roadway to the official grade; the resolution provides for the issuance of bonds to cover the cost of the improvement.

The Superintendent of Streets has been instructed to give thirty days' notice for the construction of artificial stone curbs and gutters on both sides of Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, Eleventh, Twelfth, Thirteenth, Crittenden, Fourteenth, from Santa Clara to Julian; Lackawanna from St. John to Julian, Fifteenth street, from St. James to Julian; also that he give thirty days' notice for construction of sidewalks on Delmas avenue, from San Salvador to city limits.

Santa Barbara, Cal.—The Civic League is interested in improvements and extensions to be made to roads and highways throughout this section.

Santa Cruz, Cal.—A resolution for grading and macadamizing a portion of High street was adopted.

Redlands, Cal.—The Highway Commissioners are traveling over the county in the interest of the good roads bond election which is to be held soon for improving the roads throughout this section.

Venica, Cal.—Milton Carlson is Assistant Street Superintendent, and interested in new boulevard proposed from Los Angeles to Venica.

Denver, Col.—The Board of Public Works of Denver City and county, W. B. Lowry, President, has ordered extensive sidewalk construction in Case and Ebert's addition.

Apalachicola, Fla.—Council has ordered an election October 6, for bond issue of \$10,000, of which \$2,500 will be for fire apparatus, \$1,500 for road machinery, \$6,000 for building shell roads.—H. W. Morgan, City Engineer.

Chicago, Ill.—Plans are under way for paving a number of the streets in the downtown section of the city this fall; Superintendent of Streets Doherty may be addressed.

Joliet, Ill.—The Board of Local Improvements heard the opinion of residents of South Chicago street relative to the proposed improvement; some favor asphalt, some prefer brick, while still others insist that a macadam process be used; no decision was arrived at, and Mayor Cronin suggested that the matter be held open to October 5, by which time it is expected an agreement will have been reached; the residents are a unit in favor of the scheme to improve the street, but differ as to the material. A petition for the improvement of Indiana avenue, between Jackson and Clay streets, was presented and acted upon.

Springfield, Ill.—Arrangements are under way for improving and extending the roads in this State; a new road is planned from Washington Park to the Illinois County Club.

Indianapolis, Ind.—Bids will be received by the Board of Public Works for the

paving of streets as follows: Hawthorne lane with asphalt; 13th street with bitulithic; Pine street with brick and stone curbing; 29th street with wooden blocks; Northwestern street with asphalt; Downcy avenue with bitulithic, brick gutter and stone curb.

Valparaiso, Ind.—The farmers in the vicinity of Anderson recently voted to build a new 14-mile road through Green Township, to cost about \$60,000.

Washington, Ind.—A petition has been presented to the Board of Commissioners of Adams County for the construction of a free macadamized stone road in this township; the Board has also been petitioned for the grading and paving of the cemetery road in this township.

Des Moines, Ia.—Resolutions have been passed by Council authorizing the construction of a creosote block pavement on 6th avenue, from Mulberry to Cherry streets, and Cherry street from 5th street to the Des Moines Union tracks.

Indianola, Ia.—Council has passed resolutions for the paving of E. Ashland, E. Salem, W. Ashland, W. Salem avenues, S. Howard, South A, N. Howard and North A streets.

Leavenworth, Kan.—Council has passed ordinances for regrading Delaware street from Sixth street to Broadway by surfacing to 11½ inches below the established grade and paving with one course of vitrified brick on 1½ inches of sand and 6 inches of hydraulic cement concrete, grouted with Portland cement grouting; regrading and paving alley running east and west in block 21, Clark & Reese addition from 4th to 5th street, in same manner, and in block 46, between 3d and 4th streets, in same manner; also repaving Cherokee street from Main street to Broadway with brick and setting artificial stone curb in 5th street, Shoemaker avenue, Michigan avenue, and Miami street.—E. W. Cranell, Mayor; J. H. Kirmeyer, City Clerk.

North Topeka, Kan.—Funds are being raised for improving the roads throughout this section.

Louisville, Ky.—Council is arranging to improve certain streets in Chestnut Hill suburbs.

Paducah, Ky.—Council has passed ordinances for the construction of alley running between Tennessee and Jones streets and Ninth and Tenth streets; alley between Tennessee and Jones streets and Eleventh and Twelfth streets, and alley between Tennessee and Jones streets and Sixteenth and Eighteenth streets, by grading and graveling.—James P. Smith, Mayor.

New Orleans, La.—The Committee on Streets and Landings has ordered a favorable report on the ordinance by Mr. Gateley authorizing the Mayor to accept a donation of a strip of land for the purpose of opening and extending Ursuline street to the intersection of North Hagan avenue, and to lay out neutral grounds on Ursuline avenue from Rendon to Hagan avenue, and pave both sides of the street with asphalt; this will meet with favorable results.

Shreveport, La.—Caddo parish is to have better roads in the near future, according to President Jules Dreyfuss of the Police Jury.

Amherst, Mass.—A new section of State highway is to be constructed at once.

Beverly, Mass.—The Board of Aldermen has decided to pave Cabot street.

Boston, Mass.—The Board of Street Commissioners has given hearings on petitions to lay out and construct Dudley avenue, from Belgrade avenue to South street, West Roxbury; Stonehurst street, Dorchester; Fletcher street, from Center street to South street, West Roxbury; Evergreen street, an extension to South Huntingdon avenue, and Newcastle road, Brighton. These were the first hearings on the laying out of streets from the loan of \$250,000 recently made by Council. The Commissioners announced after each of the hearings that they would pass the orders for the laying out of these streets; Mayor Hibbard has told Alderman Cotton that he will approve the order for Dudley avenue and Fletcher street.

Fitchburg, Mass.—At a recent meeting the Highway Committee reported favorably to the Town Council upon the petition for the paving of Daniels street.

Lynn, Mass.—Plans are under way for improving and extending Rockland street as a public highway cut to Brownsville avenue; other extensions and improvements are also planned.

Warren, Mass.—The Town Council will shortly reach a decision in regard to proposition recently laid before the Rhode Island company to lay tar macadam on more than a mile of North and South Main streets in this town.

Gwinn (P. O. Princeton), Mich.—The town of Gwinn proposes constructing about four miles of cement curb and gutter.

Jackson, Miss.—It is proposed to construct some concrete sidewalks.—R. A. Norton, Mayor.

Independence, Mo.—Figures will soon be received on two blocks of brick paving, with asphalt filler.—Thos. S. Cole, City Clerk.

Springfield, Mo.—A resolution has been passed for paving with brick of Jefferson street from Center to Calhoun street; also for the paving of Benton avenue from Center to Pacific street.

Versailles, Mo.—The roads in Morgan County are poor and the citizens are interested in improvements.

Norfolk, Neb.—No bids were opened for laying about six blocks of vitrified brick block pavement on account of technicality in law.—Ed. Harter, City Clerk.

Rindge, N. H.—The question of a new highway along the east side of Lake Manomack from the New Hampshire line to Winchenden, Mass., is being discussed. Address Civil Engineer George M. Whitney.

Little Falls, N. J.—Township Clerk of the Township of Little Falls will soon let bids for the construction of sidewalks on the westerly side of Stevens avenue in front of property of George W. Sherman, easterly side of said street, and other streets in this same vicinity; the work will be under the supervision of the Township Committee.—Wm. H. Van Ness, Chairman.

Binghamton, N. Y.—John A. Giles, City Engineer, will prepare plans for paving Lewis street, from the east line of Chenango street to the east line of Fayette street. Bids will be called for by D. C. Herrick, Clerk Board of Contract and Supply.

Fulton, N. Y.—The Board of Public Works rejected all bids, same being too high, for paving Oneida street, between Second and Sixth streets, and Cayuga street, between Second and Third streets; work will be done by the city, with City Engineer superintending construction.

Jamestown, N. Y.—Council has rejected all bids received for paving Lake View avenue; new bids will be received.

Surveyors from the State Engineer's office have completed surveys, plans and

estimates for the construction of seventy-five miles of macadamized highway in Chautauqua County to be submitted to the Board of Supervisors for approval, at the session in September; roads leading from Mayville to this city on the east side of Chautauqua Lake; from Jamestown to Frewsburg by way of Carter's Corners, and along to the old stage road to Findley Lake.

Mount Kisco, N. Y.—Proposals will be received for improving the road leading easterly from Katonah Village to the Cross River bridge.—Jos. E. Merriam, Town Clerk.

New York, N. Y.—Street at Sixth avenue and Twenty-third street is ready for asphalt, and repaving of nearby streets will be commenced, under H. C. Samford, Chief Engineer of the Degnon Contracting Company.

Borough President Gresser, of Queens County, has announced that \$30,000 will be expended on the improvement of the Shell road, from Broadway, Elmhurst, to Jackson avenue, Corona, a distance of two miles.

Niagara Falls, N. Y.—The Board of Public Works received a protest from property owners on Ontario avenue between Lockport and Sugar street, protesting against the letting of a contract for paving at this time, who claim that the bids recently opened were too high on brick and asphalt, and rather than pay any of the prices asked, they wished to have the paving go over until another time. The bids were thrown out, but the proposals on connections were not rejected. The City Clerk was directed to readvertise for bids returnable at the next meeting, the Mayor contending that it was up to the Board to get cheaper pavement for the property owners if possible.

Schenectady, N. Y.—Action in the matter of the construction of sidewalks in upper Union street, beyond the old city line, was postponed by Council until September 22, to permit property owners entering a protest against the setting apart of 12 feet, several holding that in widening the street their lawns were materially reduced; they ask that the width be made 11 feet instead, which gives a five-foot sidewalk. The Road and Bridges Committee has reported favorably on the paving of Emmett street, sidewalks in Lang street, Salina street and Division street. The committee also reported that the extension and opening up of Foster avenue from the end of the present pavement to Stony Lane would cost \$750.

Engineer Chas. W. Trumbull is preparing plans for Willow avenue paving, Oakwood avenue grading and Wright avenue paving; bids will soon be called for by the Board of Contract and Supply.

Yonkers, N. Y.—Council has formally directed that the following improvements be made: Crosswalk, corner of Ashburton avenue and Walnut street, sewer in Frederick place, improvement of Woodland avenue, Frederick place, Oneida street, Old Lawrence street, Morningside avenue, Forman street; by ordinance of Alderman Adams, a catch basin will be placed in Radford street; by ordinance of Alderman Stillwell, water mains are to be laid in Bennett place north of Midland avenue; by resolution of Alderman Corbals, plans and specifications are to be prepared for improving Convent place; by resolutions of Alderman Mooney plans are to be prepared for grading Arlington avenue, and the Westchester Lighting Company is directed to extend the gas system along Saw Mill River road, Division street and Burhan avenue.

Amsterdam, O.—Bids will be received September 18, for the purchase of 10,400 5 per cent. street improvement bonds.—J. H. Maple, City Clerk.

Columbus, O.—The County Commissioners have sold \$58,900 road improvement bonds.

East Liverpool, O.—The paving of Seventeenth street between Main street and Clark avenue will soon be advertised and will be completed this year; plans and specifications are prepared for Fifth street from Riverside avenue to Commerce street and Washington avenue between Sixth and Ninth streets, but it is not believed that any work will be done on them this year.

Hubbard, O.—Mr. Corll brought up in Village Council the matter of grading Hager street and looking after the surface water there, and it was decided to place the improvement with the Streets Committee, which is empowered to exercise its own discretion as to the work on that street, as well as to provide for a sewer on Water street adjoining the St. Patrick's church property. In connection with widening Christian avenue, Solicitor Boyle was instructed to make the street 40 feet wide and to negotiate with those owners who were not willing to deed their land gratis; he is to secure the best terms possible and present them to Council for consideration. The Solicitor was also instructed

ed to prepare a resolution to repair the sidewalk in front of the Rebecca Jackson property on North Main street and assess the cost of the same against the proper owner.

Lorain, O.—The paving of West Erie avenue is in contemplation.

Sidney, O.—The matter of paving a number of streets is being considered, including South Main avenue and North Miami avenue.

Marysville, O.—An ordinance has been passed by Council authorizing the paving of Sycamore and Maple streets.

Youngstown, O.—Assistant State Highway Commissioner D. W. Seitz, of Columbus, has rejected bids received for macadamizing the Youngstown and Poland road.

Guthrie, Okla.—Council has authorized W. W. Miller, City Engineer, to prepare maps and estimates for about 112 blocks of paving. The City Engineer has filed plans for paving Noble avenue, about 24 blocks, to consist of about 44,000 square yards paving, 14,600 linear feet curb and gutter, 2,550 linear feet plain curb and 1,200 linear feet brick sidewalk, to cost about \$114,000.

Vinita, Okla.—Bids will be opened shortly for three miles of oil macadam paving, with curb, gutter and grading.—G. F. Fogle, City Clerk.

Roseburg, Ore.—Plans are under way for the construction of a modern new road between Coos Bay and Roseburg; the Roseburg Chamber of Commerce is interested in the matter.

Erie, Pa.—All bids opened for paving Third street have been rejected and new bids will be received.

Reading, Pa.—Council referred bill No. 41, by Mr. Rick; it provides for paving with granite blocks, Sixth street between Greenwich and Oley streets.

Scranton, Pa.—Select Council has passed an ordinance providing for the grading, paving and curbing of Jackson street from Bromley avenue to Van Buren avenue, Kellum Court, between Mulberry street and Vine street, Dix Court from Lee Court to Mulberry street and Vine street from Penn avenue to Washington avenue.

Wellsboro, Pa.—Improvements to the roads in this section are being discussed; State Highway Commissioner Hunter can be addressed.

Orangeburg, S. C.—Surveys and plans have been prepared for improving a portion of Russell street, a distance of 4,160 linear feet, containing 19,530 square yards of paving, and recommends additional width of sidewalk, surface drainage, electric light conduit and vitrified brick laid on concrete base, at an estimated cost of \$59,270; the city, however, is unable at present to expend this amount of money and may put down a macadam pavement.—Edw. Hawes, Jr., City Engineer.

Columbia, Tenn.—Preliminary arrangements are being made for paving the Hampshire pike near this city from the corporation limits to the Columbia Military Academy.

Houston, Tex.—Arrangements are now being made for extending the State road from Belasco to the tidewater, to Quintana.

Provo, Utah.—Council has passed an ordinance creating a sidewalk graveling district in the northwest part of the city; the estimated cost will be 12 cents per linear foot; September 28 has been set for hearing objections to the proposed improvement.

Salt Lake City, Utah.—Sixth East street is to be paved with asphaltum.—L. A. Kelsey, City Engineer.

Bristol, Va.—\$100,000 will be expended on improving the roads and highways throughout Sullivan County.

Portsmouth, Va.—Council is preparing to invite proposals for paving streets from bond issue to bid for extensive paving, sewerage Park View and for other purposes.—Bascom Sykes, City Engineer.

Richmond, Va.—Arrangements are being made for issuing \$300,000 bonds for improvements to roads in Highland Park and vicinity.

Seattle, Wash.—Prospects are bright for the early construction of Queen Anne Boulevard, an improvement that has been before Council and the Board of Park Commissioners for a long time. Assurances are made by the Park Board that the improvement will be started as soon as the city condemns the necessary private property.

Tacoma, Wash.—The County Engineer is fixing up a profile and preparing specifications for the roads from the end of the Tacoma Eastern railroad at Ashford to the government reservation; as soon as the work of the engineer is completed the County Commissioners will call for bids for the construction of the new two-mile highway. The Board of Commissioners has ordered that the road from Kapowsin to Electron and the Wickersham reservation road be surveyed.

The Pierce County Good Roads Association of this city has taken up the matter of paving the proposed boulevard loop, which will be a driveway 12 miles in length.

Wheeling, W. Va.—The question of improving the old National road from the city limits to the Fulton line is being discussed.—C. C. Cooke, City Engineer.

Jamesville, Wis.—Orders were passed by Council directing the Street Commissioner to build brick crosswalks on Wisconsin street on the south side of North First; across North First on the east side of Wisconsin street, across Forest Park boulevard on the north side of Logan street; and across Court street on the east side of Garfield avenue; also to repair the gutters at the corner of North and Cherry streets; to fill the holes and repair East street from Milwaukee street to South Third street; and to oversee repair work on the abutments of the Monterey bridge. The City Engineer was directed to file a grade for Washington street from Carrington to Wall street and the City Clerk was directed to purchase a carload of paving brick. A resolution calling for the improvement of East street from Milwaukee street to South Third street with cement gutters and curbing and directing the Street Assessment Committee to take the necessary preliminary steps was passed. The Street Assessment Committee was directed to have a storm sewer constructed on Washington avenue from Lincoln street to Cherry street according to plans previously adopted.

Lake Mills, Wis.—Engineer W. G. Kirchofer, 22 North Carroll street, Madison, has completed plans for four blocks of tar macadam paving for the city; bids will be received by N. E. Falt, City Clerk.

SEWERAGE

Newport, Ark.—Lund & Hill, Engineers, Little Rock, Ark., recently appointed to design and supervise construction of the proposed sewer system, expect to have plans ready about September 25; the system is to cost from \$40,000 to \$50,000.—Alcorn Ferguson, Chairman Board of Improvement, District No. 1.

Riverside, Cal.—Mayor Evans will shortly take up the matter of extending the Arlington sewer.

Santa Cruz, Cal.—Resolutions to construct sewers on Market, Albion and Grant streets were adopted.

Council has ordered the construction of the new sewer in East Santa Cruz and Seabright to cost \$100,000.

South Pasadena, Cal.—A mass meeting was recently held to discuss plans for a sewerage system for the city.

Denver, Col.—The City Engineering Department have completed plans for the sewer system in the Clayton Addition, and advertisements of the improvements will be issued at once; the total expenditure of the sewer will be \$75,000; work will be commenced immediately.

Manchester, Conn.—Surveys are being made for the proposed sewer system.

Wilmington, Del.—A request for a sewer for a number of new properties on Laurel street, between Delaware avenue and Sixteenth street was made to the Street and Sewer Directors.

Athens, Ga.—About \$40,000 will be expended by the city this year in the construction of sewers.

Monroe, Ga.—Bids will be received September 24, for \$30,000 sewer bonds.—F. H. Thomas, Clerk of Council.

Chicago, Ill.—Early in October bids will be received for the construction of sewerage system in Kenzie avenue.

Danville, Ill.—Plans are under way for the erection of a new disposal plant. Address City Clerk.

East St. Louis, Del.—Mayor Cook has presented an ordinance which the Board of Local Improvements had decided on, recommending a sewer drainage district for an outlet or main sewer, to cost \$742,687.75. Alderman C. B. Goedde made a motion and the report of the ordinance committee, which unanimously favored the building of the sewer, was adopted.—W. J. Crocker, City Engineer.

Ottawa, Ill.—Thomas D. Catlin, Lorenzo Leland, and about fifty other North Side residents, presented a petition asking Council to take steps for the construction of a sewer in that section of the city; referred to the Board of Local Improvements on motion of Alderman Sanders.

Fort Wayne, Ind.—A resolution was adopted by the Board of Works for the opening of an alley east of Short street and plans for a sewer in the alley were ordered.

Peru, Ind.—A contract will be let some time this fall for a district sewer.—William O'Hare, City Clerk.

South Bend, Ind.—The Board of Public Works has ordered plans prepared for the construction of a sewer in West Wayne street, from Franklin to Taylor street.

Louisville, Ky.—A resolution has been passed by the South Louisville Improvement Club to build a twelve-mile canal to drain all the suburban territory of Louisville north of Iroquois Park.

Baltimore, Md.—C. H. Hendrick, Chair-

man Engineer of the Sewerage Committee, is preparing plans and specifications for sewer work to be let this fall which will cost \$1,250,000.

Health Commissioner Bosley has issued orders for the construction of a sewer on Thirty-first street, near St. Paul street.

Hagerstown, Md.—The matter of constructing a sewerage system is being considered by Council.

Indian Orchard, Mass.—The Selectmen will shortly call a special meeting to act on matter of appropriating an additional sum of money to be expended on sewers in this town and at Collins Depot.

New Ulm, Minn.—Council has ordered construction of sewer to be located in Centre street.

St. Paul, Minn.—The first active step toward securing better sewer service for the west end was taken at a meeting of the Assembly when a resolution was introduced by Henry Haas providing for the issuance of \$75,000 sewer bonds to be utilized in the construction of what is known as the Portland-Aldine sewer system; the measure went to the Committee on Streets.

Springfield, Minn.—New sewers are to be constructed in Main street, Marshall avenue and Cass street.—A. Frederickson, Village Recorder.

Jackson, Miss.—The city will construct an extension to sewer system, estimated cost, \$35,000; the city recently issued \$196,000 bonds for improving water works, extending sewer system, streets and sidewalks.—R. A. Norton, Mayor.

Independence, Mo.—Bids will be received for an 8-inch vitrified pipe sewer, estimated to cost \$900.—Thos. S. Cole, City Clerk.

Gothenburg, Neb.—Proposals will be received for the construction of a sewerage system.—C. F. Williams, City Clerk.

Paterson, N. J.—John T. Brett, Street Commissioner, has given notice that it is the intention of the Board of Public Works to construct the following named sewers: In East 23d street, 600 feet; East 24th street, 600 ft.; East 29th street, 600 ft.; Oak street, 500 feet; Marshall street, 400 feet; Paxton street, 500 feet; Sussex street, 500 feet. All the above sewers will be of 12-inch pipe.

Auburn, N. Y.—The Board of Estimate and Control rejected the proposals of various consulting engineers and instructed City Engineer W. Thos. Wooley to prepare plans and specifications for sewers and a sewage disposal plant for the First, Sixth and Tenth Wards; bids will be called for by the Board of Estimate and Control late this fall or early in the spring.

Binghamton, N. Y.—Mayor C. M. Slauson is considering the appointment of a committee to investigate the question of constructing a sewage disposal plant.

The sewer on Lewis street between Chenango and Fayette streets is inadequate and it is probable steps will have to be taken in the near future for the construction of a new one.

Brooklyn, N. Y.—A committee of the Board of Estimate of New York City is at work on a report of a drainage canal to be constructed in Brooklyn to carry off the storm sewage of the Gravesend section.

The Board of Public Works is considering proposition of construction of sewers in West Thirty-seventh street.

Highland Falls, N. Y.—Consulting Engineers Knight & Hopkins, 101 West Dominick street, Rome, are preparing plans for a sewer system for the Village Board of Trustees. W. J. Duffey, President; it will consist of approximately 7 miles of sewers, ranging from 6 to 15-inch tile sewers; also disposal plant (gravity system), two concrete septic tanks having about 1,000 cubic yards of concrete in construction; about 200 tons of manhole and special castings. Bids will be called for shortly.

Newburgh, N. Y.—The Street Committee of Council has been petitioned for the construction of a sewer on the north side of Broadway from Prospect street to Hill street.

Rensselaer, N. Y.—Civil Engineer Leslie Allen, De Graf Building, Albany, is preparing plans for 650 feet of 8-inch tile sewer in Second avenue, between Fourth and Second streets; also for 1,050 feet of 8-inch tile sewer in Fourth street, from Washington to Patton avenue; bids will be advertised for at once.

Schenectady, N. Y.—An engineer will soon be retained to prepare plans and specifications for a sewage disposal plant, including pumping station, septic tanks, filter beds, etc., with a capacity of from 40,000,000 to 50,000,000 gallons daily.—C. B. Pond, Commissioner of Public Works.

Utica, N. Y.—Council has adopted ordinance from the Board of Estimate and Apportionment to construct a storm water sewer in Blandina street from Morris street about 156 feet westerly.

Rome, N. Y.—The Water and Sewer Board has granted a petition for water and sewer mains, 235 feet, to be located on Expense and West Willett streets.

Athens, O.—Bids will be received September 28 for \$10,000 5 per cent. 1 to 13-year sewer bonds.—W. B. Golden, Village Clerk.

Circleville, O.—An election will be held October 6, to vote on the question of issuing \$100,000 bonds for the construction of a sanitary sewer system.—A. L. Redman, President of the Board.

Dayton, O.—Plans have been filed for the construction of the proposed storm water sewer in Bolender avenue to cost \$32,870; this sewer will begin at the Miami River in Edgemont, and will extend to one block west of the Cleveland, Cincinnati, Chicago, & St. Louis Railroad.—T. N. Pexton, President Board of Public Service.

The bid of Contractor W. H. Stewart of \$9,985 to clean the Lorain avenue and other East End sewers has so surprised the members of the Service Board that there is hardly a doubt that it will be thrown out; \$15,000 was given to clean out all the choked-up sewers and the Lorain avenue sewer, although badly clogged up, is only three miles long; if his bid were accepted it would leave but \$4,000 to clean out the other twelve miles of sewers; at this rate it would cost the city \$3,325 for every mile of sewer cleaned and with fifteen miles to clean, it would eventually cost the municipality the sum of \$50,920 to clean the entire system. Engineer Cellarius' estimate to Council in cleaning out the entire fifteen miles was \$1,000 a mile, or \$15,000, and this amount was given him.

East Liverpool, O.—An outlay of fully \$6,000 will be necessary to provide the completed and proposed additions to the sewer system; a large sewer on Eighteenth street, between Chester avenue and Commerce street, has been completed, and important additions will be made on Chester and Buckeye avenues, besides shorter connections in other sections of the city; a portion of this work will be done by contract, while much of it will be completed under the direction of Superintendent Ewing.

Hubbard, O.—A report was made to the Village Council by Dr. Button with reference to a recent visit of Engineer W. W. Wilson to the village for the purpose of going over the streets to determine what could be done toward establishing a sewer system; as a result it was determined that the best solution was the installation of a storm water sewer at Main and Liberty street and one on Water street; as to a sanitary sewer, the Engineer assured the Councilmen that it could be run into the creek on the old mill lot for the present, and when the time came for the construction of a disposal plant the village could do so on its own property.

Lowellville, O.—Plans have been completed for a sewer system for this place.—Geo. P. Schrader, Village Clerk.

Warren, O.—The question of a new sewage disposal plant is being discussed.

Wellston, O.—The work on the sewer's extension is at a standstill, because tile is unavailable; the successful bidder failed to supply the tile necessary; bids are again being advertised.

Bellefonte, Pa.—The State Health Department has directed that a sewage disposal plant be located in this place.

Canonsburg, Pa.—W. C. Black, Town Clerk for the borough of Canonsburg, and Walter Olloman, Clerk for South Canonsburg, have received from the State Department of Health at Harrisburg the approval of the plans made for a joint sewage disposal plant; these plans were prepared by Engineer Pratt of Columbus, O., and cost the two boroughs \$750.

Harrisburg, Pa.—Mr. Snavely said in Council that there was in course of preparation an ordinance which will provide for the erection of a wall along the river front and a sewer to take up all the sewage emptying into the river, and it would be ready very soon. Resolution that came to Select Council from Common providing for the extension of the sewer pipes at Hamilton and Rely streets twenty-four feet further into the river at a cost of not more than \$500, was amended on Mr. Bacon's motion by referring it to the Finance Committee.

Haverford, Pa.—The authorities have agreed to install a modern sewage disposal system. This step is a result of Health Commissioner Dixon's campaign to eliminate sewage from the streams in the territory adjacent to Philadelphia, and is believed to merely be the forerunner of a number of such disposal plans.

State Health Commissioner Dixon has approved the plans for the construction of a sewage disposal plant at Haverford College.

Lebanon, Pa.—Bids will be called for at once for constructing about 2,000 feet of 18-inch pipe sewer in Cumberland and Seventh streets, Spring and Pleasant alleys, to the Quittapahilla Creek.—John Hunsicker, Chairman of Committee of Citizens; George W. Hayes, C. E., the Engineer in Charge.

New Castle, Pa.—An ordinance providing for the construction of the Fifth Ward

storm sewer was passed; this will be erected at a cost of \$12,000, and work upon same will be pushed as rapidly as possible.

New Cumberland, Pa.—The town has been noticed that new sewage disposal plant must be erected at the earliest time practical.

New Wilmington, Pa.—The State Health Department has granted the Borough permission to construct a four-mile sewer system.—J. C. Martin, Borough President.

Reading, Pa.—Plans have been approved for the proposed addition to the city sewage purification work, which will include two filter units and two septic tanks.

Huron, S. D.—The city has voted \$60,000 bonds for constructing a sewer system, and work will be started on same this fall.

Denton, Tex.—An election will be held to vote on the question of issuing \$35,000 bonds for the construction of a sewer system.

Portsmouth, Va.—President W. C. Corbitt, of the Common Council, and President C. W. Walker, of the Board of Aldermen, have been busily engaged for some time affixing their signatures to the city's \$170,000 bond issue, the proceeds of which will be devoted to the installation of Park View's new sewerage system, the erection of a new high school building and the paving of several streets; the work of undertaking the public improvements contemplated will be pushed forward as rapidly as possible.

Corliss, Wis.—The officers of the village are planning to build a sewer system to cost \$10,000 and it may be that a septic sewer system similar to the one at Waukesha will be installed; as soon as the sewer system is completed a system of water works and fire protection will be installed.

Iola, Wis.—The city will construct a sanitary sewer, including 800 feet of vitrified tile sewer, septic tank, disposal plant.—J. C. Lang is interested.

Plymouth, Wis.—All bids were rejected for constructing a sewage disposal plant.—C. W. Jackson, City Clerk; W. G. Kirchoff, Engineer, 31 Vroman Building, Madison.

WATER SUPPLY

Gadsden, Ala.—The Gadsden Water Works Company will at once make improvements in the system; \$100,000 in bonds have been sold for this purpose.—Address Mayor Dunlap.

Mobile, Ala.—Improvements are contemplated to the water works plant owned by the city.

Lyonsville, Cal.—A water system will shortly be installed; over 3,000 feet of pipe will be laid through the streets.

Oakland, Cal.—City officials are outlining plans for a municipal water supply for public park purposes.

Sausalito, Cal.—The citizens have voted \$100,000 bonds for installing water system.

South Pasadena, Cal.—A mass meeting of the citizens was recently held to discuss the matter of securing water system for the city.

Yuba City, Cal.—At a special meeting of the Town Board of Trustees the bids on the bond issue of \$30,000 for a municipal water works system were received as follows: N. W. Halsey & Co., San Francisco, \$32,370; G. G. Blymyer & Co., San Francisco, \$32,675. The bid of the last-named company was accepted, it being unconditional.

Daytona, Fla.—City ownership of the water works has been decided on.

Waterbury, Conn.—The Committee on Water has been authorized to secure an estimate from the City Engineer on the amount of water pipe needed for the construction of a water main in Freight street from Meadow street, with power to order the same laid if there was sufficient money left in the appropriation to pay for it.

Cottonwood Falls, Ida.—The Cottonwood Water Company will install a new water system.—Address Secretary.

Chicago, Ill.—Plans are about to be prepared for the construction of a high-pressure water system for the downtown district, to cost about \$1,000,000.

Moline, Ill.—The Board of Local Improvements has decided to lay a water main on Eighteenth avenue, from Fifth to Seventh street.

Ottawa, Ill.—The Water Committee has been instructed to get an estimate of the cost of installation of air lifts and the cost of operating same.

Ft. Wayne, Ind.—The Water Works Board will open bids for 250 tons of pipe to be used in making extensions of the water mains.

Mound Ridge, Kan.—Bonds, \$25,000, have been voted to establish a water and light plant; estimates have been prepared. Address City Clerk.

Norway, Mich.—Bids for the purchase of \$57,000 bonds for water works extensions have been called for.—John Burdick, Chicago, Ill., Engineer.

Red Wing, Minn.—Council will improve

the water system by establishing filtration system and extending water mains.

Jackson, Miss.—Details are being prepared for the proposed water works improvement, which will cost \$40,000 for construction, and \$85,000 for material; bonds have already been sold.—R. A. Norton, Mayor; Hamilton Johnson, Engineer.

Dover, N. J.—A resolution to the effect that the City Treasurer be authorized to borrow \$32,500 for the purpose of constructing a filter plant and for other improvements to the municipal water supply was unanimously carried in Council.—William Grover, City Engineer.

Haddonfield, N. J.—This borough is to have a large artesian water plant with a large capacity, this being about 3,000,000 gallons daily; Council has decided to issue \$100,000 bonds to raise money for this plant.

Lodi, N. J.—Lemuel Lozier, of Hackensack, is preparing plans for water works, to cost about \$80,000.—Andrew D. Kerr, Borough Clerk.

Merchantville, N. J.—The Borough Council will take up the matter of a municipal water plant in this city; property owners will assist in securing a water plant.

Newark, N. J.—The Board of Public Works is discussing a proposition to lay new water pipes in Market and Ferry streets.

Albany, N. Y.—State Engineer Frederick Skene, Capitol, is preparing plans for a reservoir, to be constructed at Delta, as source of water supply for the barge canal under construction; reservoir to cover about four square miles; also for a State reservoir, at Hinkley, about twenty miles north of the city of Utica; size to be about four and a half square miles; bids will soon be called for by Superintendent of Public Works F. C. Stevens.

Altamont, N. Y.—Civil Engineer Leslie Allen, 24 De Graf building, Albany, is preparing plans for addition to reservoir and gravity water system for the village; bids will be called for by the Village Board of Trustees.

Brooklyn, N. Y.—The city is taking steps to secure a water supply from Suffolk County.

Canajoharie, N. Y.—At special election it was voted to expend \$75,000 for the construction of a municipal water works plant; plans will be completed and bids soon called for by the Board of Village Trustees.

Niagara Falls, N. Y.—The Water Commission has received from City Engineer Robbins estimates on four proposed plans for a new water supply system for the city. The first contemplates increasing the capacity of the municipal plant to 12,000,000 gallons, and would necessitate the purchase of land for filtration purposes. A suitable installation would require an outlay of \$323,752. The second contemplates the purchase of the Niagara Falls Water Works Company and of land suitable for filtration beds. An installation sufficient to meet the needs of the city would entail an outlay of \$184,470. That does not, however, include the purchase price of the company's plant, which has not been appraised. The third plan has for its purpose to take water directly from the river, either at 2,000 or at 4,600 feet from the American shore, either by pipe line or by tunnel. The tunnel would be seven by nine feet, the pipe 48 inches in diameter. With an intake 2,000 feet from shore, the cost of driving a tunnel and installing necessary apparatus would be \$464,132. The cost of a pipe-line system would be \$432,234. This plan provides for a high-pressure service. For a low-pressure service at 4,600 feet from the shore a tunnel and installation would entail an outlay of \$402,930 and for a 48-inch pipe line, low-pressure service at the same distance from shore, the cost would be \$351,010.

Rensselaer, N. Y.—Civil Engineer Leslie Allen, 24 De Graf building, Albany, is preparing plans for a reservoir for the Rensselaer Water Company, 852 Broadway street, to be 250x400x10 feet; bids will be called for late in the fall.

Rome, N. Y.—Consulting Engineers Knight & Hopkins, 101 W. Dominick street, are preparing plans and specifications for about six miles of 30-inch cast iron pipe, extending from Stokes to Rome; pipe to be laid at depths ranging from 5 to 10 feet; bids will be called for by the Board of Water and Sewer Commissioners in about two months.

Troy, N. Y.—Preparations are being made to improve the water supply in the part of the city east of Tenth street, which is supplied by the upper service lake; pumps are being installed at the company of the Albia Box and Paper Company and one at the factory of the Troy Knitting Company.

Wolcott, N. Y.—Engineer H. S. Moreland, of Wolcott, writes that he is making a survey with a view of ascertaining the

required cost of water works for Wolcott. I. M. Ludington, Frank Occumpaugh, Chas. Thayer, Claude Ludington, all of Rochester, N. Y., and O. M. Curtis, of Wolcott, to whom a franchise for a water system has been granted, are the parties interested. It is proposed to build a system with a normal capacity of 250,000 gallons per day, with a fire emergency capacity of six times this amount. The estimate is not yet made, but \$60,000 will cover the expenditure. The question of the sale of bonds has not yet been determined beyond the fact that private capital will build the works. Whether the system will be built depends largely on how the taxpayers vote on a proposition for the village to make a contract for hydrant rental with the water company. It is the intention, if the proposition is carried, to install the system by the end of this year.

Northwillesboro, N. C.—J. B. McCrary, Atlanta, Ga., has been selected Consulting Engineer for the proposed water works.—Oscar C. Dorney, Mayor.

East Liverpool, O.—The most important water improvement is that of placing six additional wells in the bed of the Ohio river, from which sand-filtered water will be pumped to the reservoir; the contract for this work will be let soon, and it is expected to complete it before winter; the low stage of water in the river will aid greatly in carrying on the work of placing the wells; the Water Works Department is self-sustaining and a surplus has been created, from which the cost of the improvements of the system will be taken.

Hubbard, O.—Dr. Button has reported to the Village Council that he has had an interview with Mr. Pierce in Youngstown, that gentleman representing Mr. Fothergill, regarding the water works proposition, and had been assured that the latter was desirous of taking up the matter of a franchise in Hubbard as soon as possible.

Portsmouth, O.—Six-inch water mains are to be put in on New Seventh street, also on Offshore from Robinson avenue to Seventeenth street. A sanitary sewer will be extended north to the Holy Redeemer and Trinity churches.

Toledo, O.—F. I. Consaul, Chairman Engineering Board of Public Service, states that the contract for Sections Nos. 1 and 4 of the pure water conduit (bids opened August 25) has been awarded to Waters & Tousey, of Toledo, at \$41,932 and \$50,971, respectively. The contract for Section No. 3 was awarded to McKinney Bros., of Toledo, for \$48,495. In each case the work was let for monolithic concrete construction, 10 inches thick, including a 2-inch mortar face lining without reinforcement. Section No. 2 will not be let until next spring. The conduit will be 6 feet in diameter. Sections 1, 2 and 4 are 3,222, 2,400 and 3,983 feet in length, respectively. The work is to be completed in one year.

Urbana, O.—The citizens have voted to issue \$15,000 bonds for the construction of water works.

Wellsville, O.—No bids were received September 5 for building new steel water supply cribs and pipe connections to existing suction lines; all out into the Ohio River. Chas. C. Ewing, Superintendent of Water Works.

Edmond, Okla.—Bids will be received September 21 for the purchase of \$45,000 5 per cent. 25-year water works bonds.—W. B. Meek, City Clerk.

Enid, Okla.—Estimates are being prepared for water works and a sewerage system.

Woodward, Okla.—The City Engineer has completed a report on the extension of the water works, which he estimates will cost about \$40,000.

Allentown, Pa.—The water plant in the Twelfth Ward belonging to the South Allentown Water Company is about to be sold to the Water Commissioners, the company desiring the amount of \$50,000 for the plant, lines and franchises; a special committee, W. J. Morton, G. R. Roth and H. E. Mullen were appointed to take up the matter.

Catasauqua, Pa.—Bids will soon be received by Borough Council for drilling artesian wells on the Yeager tract, near Walnut street.

Harrisburg, Pa.—Ordinance has been presented to Council by Mr. Kuhn for laying 8-inch water mains in Holly, Birchfield, Nineteenth, Yale, Twentieth, Norwood and Spencer streets; also for sewers to be laid in this same vicinity.

Johnstown, Pa.—With a view of relieving a water famine the Johnstown Water Company has decided to increase its indebtedness \$500,000 in order to improve the system.

Lebanon, Pa.—Engineer W. F. White of New York, employed by Jacob Millard, has forwarded his report to increase the city water supply, which contemplates the laying of an additional 12-inch water main from Smith's farm to this city, connecting it with the 16-inch main there.

Pittsburg, Pa.—The committee appointed to investigate the matter of establishing a meter system recommends the universal establishment of meters.

The Finance Committee of Councils approved a bond issue totaling \$7,415,000 to be voted for at the general election on November 3, and Council will probably approve. The items of the proposed loan are as follows: Purchase of the plant of the Monongahela Water Company, \$1,975,000; repairs, reconstruction and general improvements to the South Side water system, \$700,000; extension of water lines to the extreme East End by direct main from Highland reservoir, \$300,000; erection of a bridge on the site of the old Union bridge, \$1,000,000; acquiring land and building of reservoir on the North Side, \$1,200,000; rebuilding Larimer avenue bridge, \$175,000; new bridge on Meadow street over Negley's run, \$65,000; new bridge from East street, North side, to Eleventh street, \$1,000,000; new market house and assembly hall, North Side, \$500,000; pumpin machinery at Aspinwall to supply North Side with filtered water, \$500,000; total, \$7,415,000.

Anderson, S. C.—The Anderson Water, Light, and Power Company has decided to sink 70 additional wells for the city water supply; at present the supply is 500,000 gallons daily and new plant will just double the capacity. The company is also establishing a new fire pump which will give 1,000 gallons a minute in addition to the other gallons of 3,000 available.

Corpus Christi, Tex.—A resolution has passed Council instructing the Mayor to call a special election to vote on issue of \$125,000 bonds to buy the water works plant and to extend same.

Merkel, Tex.—The Taylor County Commercial Club has been agitating a water works for this city; the petition is being circulated asking Council for a \$25,000 bond issue for putting in this system.

Moundsville, W. Va.—The Moundsville Water Works Company will have five more wells drilled in the Ohio River this summer.

Milwaukee, Wis.—Mayor David S. Rose recommends the establishment of a general meter system.

Nanaimo, B. C.—Col. T. H. Tracy, of Vancouver, B. C., has been directed to make surveys for water system; estimated cost, \$100,000.

Montreal, P. Q.—The Town Council of North Bay favors the plans in connection with the reservoir recommended by J. Kennedy, C.E., of Montreal.

LIGHTING & ELECTRICITY

Birmingham, Ala.—The town of North Birmingham will build a water and light plant to furnish the city of Greater Birmingham, of which North Birmingham will become a part in 1909, with water and electric lights; construction probably will be begun in January of next year; the water plant will supply 30,000,000 gallons of water per day and the light plant 20,000 kilowatts. Both plants will be operated by water power and the site upon which they are to be erected is about 30 miles from Birmingham.—W. C. Harkins, Clerk and Treasurer of North Birmingham.

Live Oak, Cal.—The Live Oak and Encinal Lighting Corporation is the name of the new light company that is being formed by Live Oak business men; it is proposed to run wires from the substation at Encinal along the public road to Live Oak and place lights on about every third pole that carries the wires of the Bay Counties Power Company.—Address B. M. Sweeney.

Newport Beach, Cal.—Horace Slates is promoting a project to establish a gas plant.

Sanford, Fla.—M. M. Smith, President of the People's Bank, has petitioned Council for authority to construct electric light plant.

Tallahassee, Fla.—At a recent meeting of Council W. M. McIntosh, G. W. Saxon, A. C. Spiller and George E. Lewis were appointed a committee to consider the purchase of the Capital Light and Fuel Company, and the committee has reported favorably, and their action ratified by Council. This purchase will put both the electric light plant and gas plant, as well as the water works system, under municipal control, and the plan appeals to the citizens as a most desirable one.

Chatsworth, Ill.—The Chatsworth Electric Company with \$25,000 capital has been incorporated to furnish light, heat and power.—Louis A. Walter, J. B. Grotevant and George W. McCabe, Incorporators.

Rockford, Ill.—Among the extensive improvements which are to be made before this season ends at the plant of the Rockford Electric Company will be the entire change of the water power plant; the company will do the work which will call for the expenditure of \$40,000 to \$50,000; there will be other changes made at the plant this season also.

Lafayette, Ind.—The Indiana Lighting Company, Samuel T. Murdock, of this city, General Manager, has been incorporated with \$4,500,000 capital; the company will ask for bids soon for the construction of a number of gas producing stations.

Ossian, Ind.—General Manager C. D. Emmons and Lighting Superintendent Charles G. Guild, of the Fort Wayne & Wabash Valley Traction Company, Fort Wayne, went to Ossian recently to confer with a committee of citizens of the Wells County town relative to the terms of a franchise by which the company may light the town. A rate of \$70 a year for each lamp, the same price which prevailed here, is asked and the company proposes to use the Tungsten lamps. Ossian is now lighted by oil lamps.

Atlantic, Ia.—The plant of the Atlantic Gas & Fuel Company has been sold to F. A. Kidder, of Red Oak; \$15,000 will be expended in improvements.

Danbury, Ia.—Estimates are being prepared for a village lighting plant.—Address Village Clerk.

Boonsboro, Md.—The Antietam Electric Light & Power Company has engaged Orville Shiffer, architect, of Hagerstown, Md., to prepare plans for its power plant, to be located on Antietam Creek. The company was awarded a contract recently to furnish the city with electricity for lamps for a term of ten years.—H. L. Moser, Secretary.

Cumberland, Md.—A party of Eastern capitalists, including C. L. Pullen, Vice-President, and other officials of the Western Maryland Coal & Coke Company, and Engineer John Bogart, of New York, N. Y., visited the coal lands of the company in Garrett County on September 4 to ascertain the feasibility and probable cost of constructing a power plant on the property by damming Youhiogheny River.

Leominster, Mass.—The Connecticut River Power Company has petitioned the Selectmen for permission to erect poles for a transmission line across the public highways; the wires are to be strung from poles or towers located on private property and to cross the highways at a height not less than 25 feet.—Albertus W. Jackson, Superintendent of Streets.

Morley, Mich.—E. W. Bending, of Grand Rapids, and Joseph Bicknell, of Muskegon, have begun work on the power dam on the Little Muskegon River at Morley; the headquarters of the company which will operate the power plant to be erected will be at Morley and power will be provided for the surrounding towns.

Royalton, Minn.—The Royalton Power & Light Company, recently incorporated with a capital of \$10,000, has purchased the water power on the Platte River and will erect a lighting plant, which it is expected will be completed and ready for operation by November 1; Oscar Claussen, German-American Bank Building, St. Paul, Minn., has been engaged as engineer and is drawing plans and specifications for the plant.—A. C. Wilson, President; Charles R. Rhoda, Secretary.

Saginaw, Mich.—The Commonwealth Power Company, of Jackson, which is connected with a project for development of the water power of Au Sable River to furnish the Saginaw Valley with electricity, has begun operations testing the soil where the lake of back water will be created and where the dams will be erected; a series of dams is to be built at intervals of ten miles; the first will be near Banfield and will be 40 feet high; the company has secured flowage rights along the entire river where backwater will cover the land; negotiations for right-of-way for power lines between Au Sable and the valley cities are under way.—J. B. Foot, General Superintendent and Chief Electrician, Jackson.

Shepherd, Mich.—The new Central State Savings bank has secured the \$20,000 bonds issued by the village for the erection of an electric light and water works plant.

Aurora, Minn.—C. E. Moore, of Virginia, Minn., has petitioned Council for a franchise for an electric light plant.

Santa Fe, N. M.—Application has been made by J. P. Connor, of this city, to the Territorial Engineer, for the waters of the Pecos River, 20 miles east of Santa Fe, for the development of 4,000 horsepower for a power plant that is to supply Santa Fe, Las Vegas, Albuquerque and the Estancia Valley with electric power; it is proposed to put up a \$200,000 power plant on the river.

Valley City, N. D.—Plans are being prepared for an \$18,000 municipal lighting plant for which \$15,000 in bonds have been authorized.

Bellefontaine, O.—The West Liberty electric light plant has been sold to R. M. Keller, of Washington, for \$10,000.

Canton, O.—Improvements by the East Ohio Gas Company, calling for expenditures running into the thousands, and giving employment to 1,000 men in this vicinity, have been announced by J. J. McMahon, main

line superintendent. Work has already begun on a 14-inch main, 50 miles in length, from Canton to Youngstown, touching Alliance. Gas service will be supplied both at Alliance and Youngstown for the coming winter. Eight hundred men will be given work. From a point near Fairlawn, northwest of Akron, an 18-mile branch is to be laid east to Cuyahoga Falls, Ravenna and Kent.

Elyria, O.—To make possible a faster schedule between Elyria, Lorain and Amherst, the Cleveland, Southern & Columbus Railway Company Monday opened a new substation midway between these cities; the power station is a one-story brick structure; the plant cost \$10,000 and consists of three generators of 24,000 kilowatts and a transformer.

Fremont, O.—The Fremont Power & Light Company, which was recently granted a franchise by Council, has accepted the terms of the franchise and announces that work on the construction of the new plant will begin at once; the company proposes to develop water power in the Sandusky River, and will erect a large power plant in Bayville south of Fremont.

Ft. Gibson, Okla.—The new electric light plant owned by Frank Boudinot and Perry Pyles has been destroyed by fire.

Muskogee, Okla.—The Lincoln Gas Company of Muskogee, with \$120,000 capital, has been incorporated by O. P. Wilson and H. E. Plm of Lincoln, Neb.; L. C. Declus and S. Levy of Muskogee.

El Campo, Tex.—The El Campo Light, Ice & Water Company has increased its capital stock from \$10,000 to \$20,000.

El Paso, Tex.—The New Mexico Power Company intends to develop 2,000 horsepower, to be used in this city. This company has acquired about 41-2 miles of the land along the Penasco River southeast of Cloudcroft, and the water from this river will be diverted by a dam to Cox Canyon. From the lake thus formed the water will be taken in a ditch along the foothills to a power plant about three miles from Mayhill, about 18 miles southeast of Cloudcroft. From the power plant it is planned to carry the current to Jarilla and down along the Rock Island to Alamogordo. Orogrande and this city, where it will be utilized for power. It is estimated that the entire plant will cost about \$500,000. E. Krause and W. E. Fletcher are owners, El Paso.

Seguin, Tex.—The Seguin Electric Light & Power Company will rebuild its water power plant and reconstruct its transmission lines.—L. A. Voight, Manager.

Ogden, Utah.—The proposed power plant to be built at Ogden will cost about \$125,000; nothing will be done in the way of construction until March 1, 1909.—L. B. Spencer, P. O. Box 499, Ogden, Engineer.

Bridgewater, Va.—J. S. Dovel, of Bridgewater, states that about \$18,000 will be expended for developing the water power on North River.

Danville, Va.—The city has appropriated \$22,000 for a central lighting plant. Improvements will consist of additional boilers, 500-kilowatt steam turbine generator, etc.—Frank Talbot, Superintendent Water, Gas and Electric Department.

Emporia, Va.—The Greensville Light & Water Company is planning to begin construction of proposed water power electric plant to transmit electricity for lighting and power; surveys have been made and estimates are that a 36-foot dam across Meherrin River, one mile from Emporia, will develop 1,400 horsepower; \$100,000 will be initial expenditure; the company has closed contracts approximating \$20,000 annually for furnishing electricity.—W. Samuel Goodwyn, Emporia, President; C. P. E. Burgwyn, of Richmond, Engineer-in-Charge.

Tacoma, Wash.—The Fire and Water Committee has recommended to Council that the plans drawn for a substation to house the electrical apparatus of the city, now stored at the plant of the Seattle-Tacoma Power Company, be changed to accommodate the present needs of the city and that the Commissioner of Public Works be instructed to call for bids for construction after the plans have been approved by Frank L. Davis, City Engineer.

Fairmount, W. Va.—The Independent Power & Light Company, with \$50,000 capital, has been incorporated by L. C. Wyer, A. H. Donnelly and others.

Dodgeville, Wis.—The Dodgeville Electric Light & Power Company has received permission to construct an electric plant on the railroad land south of the Illinois Central passenger depot. It is expected that an ice and heating plant will be operated in connection with the plant.

Lethbridge, Alta., Can.—The city has purchased the plant of the Lethbridge Electric Company and will take possession of same on September 1; it will be removed to another site, will be changed from simple to condensing; the improvements include new boilers and central station; new 300-kilowatt steam turbine or engine set.—

Arthur Reid, Superintendent, P. O. Box 1417, Lethbridge.

Port Arthur, Ont., Can.—The plans of Cecil B. Smith, Engineer, Confederation Life Building, Toronto, for a power house to cost \$40,000 have been rejected and it has been decided to accept plans prepared by Mr. Smith for an \$8,000 structure.—J. McTeigus, City Clerk.

Sault Ste. Marie, Ont., Can.—Plans are being considered for the reconstruction of the power plant of the Togona Water & Light Company, which was destroyed by fire in May.—J. S. Wynn, Acting Manager.

FIRE EQUIPMENT

Little Rock, Ark.—Council has been petitioned to erect a fire station in the First Ward.

Fruitvale, Cal.—A new and up-to-date fire house is soon to be erected at 57th avenue and 14th street, Melrose; \$6,000 has been voted for purchase of fire engines.—Address P. M. Holst or T. Milton.

Santa Cruz, Cal.—Councilman Maher states that the people of Garfield Park have purchased a lot and placed the deed in escrow with the People's Bank awaiting the acceptance of the Council on the agreement that the city build a fire house on the property; the Fire Committee was ordered to get up a set of plans for a fire house for this location.

Washington, D. C.—Hornblower & Marshall are preparing plans for a new engine house.

Apalachicola, Fla.—The citizens will vote October 6 on issue of \$10,000 bonds, of which \$2,500 will be used for fire apparatus.

Cairo, Ill.—Council is arranging to build additional fire station.

Decatur, Ill.—The Fire Commissioners have petitioned for new fire station and equipments.

Homer, Ill.—A fire company is being organized.—W. H. Akers, Chairman.

Joliet, Ill.—Chas. L. Wallace is to be architect in charge of erection of a new engine house in the Seventh Ward; Fire Marshal Langdon and City Engineer Stevens can be addressed.

Newcastle, Ind.—A reservoir, with a reserve capacity of 700,000 gallons, for use in case of fire, will be constructed as soon as possible; a combination hose and chemical wagon will be purchased at once and prices will be obtained on a steam fire engine.

Council Bluffs, Ia.—Contracts are soon to be awarded for a new fire station to be erected at Bryant street.

Owensboro, Ky.—The Fire Department Committee of Council has purchased site at Seventh and Sycamore streets for the erection of a new and modern fire engine house.

Baltimore, Md.—The Board of Estimates has made an appropriation for improving the Fire Department; a fire boat will be purchased at a cost of \$100,000 and several new engine houses will be built and equipped.—Address Fire Chief.

Hanover, Mass.—A new fire house is to be erected.

New Bedford, Mass.—The Council Committee on Fire Department may obtain automobile combination chemical apparatus to replace the hand engine as suggested by Chief Dahill. Councilman Barney advised that the committee wait until the automobile soon to be delivered is here and given a trial so that some idea of just what is desired can be obtained; perhaps some different type of apparatus will be wanted, he said. Chief Dahill said that the cost of an engine and chassis would be about \$1,500, and the Fire Department mechanics could build the wagon. No action was taken on the matter.

Duluth, Minn.—A new fire hall for No. 8 fire company has been discussed for West Duluth and it is stated that new building will probably be erected in the near future.

Holman, Minn.—A disastrous fire occurred in this place; the town is without fire apparatus.—Address City Clerk.

St. Paul, Minn.—Upon recommendation of Fire Commissioner R. M. Clarkin, the Committee on Machinery has been authorized to advertise for bids for a new third-size steam fire engine to be purchased for the Fire Department to be placed in the University avenue district.

Omaha, Neb.—The City Clerk can be addressed for new central fire station to be erected.—Charles Salter, Fire Chief.

Carlstadt, N. J.—A petition is being considered by Borough Council for a new truck to be purchased for the Fire Department.

Jersey City, N. J.—The committee in charge has arranged for hurrying work on proposed new fire station in Greenville to be modernly equipped; another new fire house at Bergen and Van Nostrand avenues in the Greenville section is proposed.—Address Freeholder J. E. Carlock.

Mount Holly, N. J.—The members of Union Hose Company, one of the most active of the town's four fire companies,

has filed a petition with the Township Committee asking that the sum of \$1,200 be appropriated, to be voted upon at the next election, for the purchase of chemical apparatus.

Merrick, L. I., N. Y.—Funds are being raised for the purchase of new fire-fighting apparatus for the Merrick Hook and Ladder Company.

Oneida, N. Y.—The question of better fire protection is being discussed; additional equipment will probably be purchased.

Rensselaer, N. Y.—Geo. Van Allen has contract for new fire headquarters to be erected in the Eighth Ward at a cost of over \$5,000.

Chardon, O.—Council has accepted plans for the erection of fire hall.

Columbus, O.—Plans have been approved by Chief A. C. Burley for a new engine house to be erected in the wholesale district; the Directors of Public Safety have charge.

Stuebenville, O.—The old Reliance engine house has been torn down, preparatory to the erection of a modern new structure on the site.

Youngstown, O.—The Fire Chief recommends the purchase of automobile engine and hose truck.—W. H. Loller, Fire Chief.

Harrisburg, Pa.—The Fire Chief recommends the purchase of additional fire engines.—Chas. A. Garverich, Fire Chief.

Pittsburg, Pa.—Bids are being received by the City Controller for new engine house in the Forty-third Ward at the corner of Charylers and Church avenues to be modern construction and after plans by Chas. J. Reiger, of 1302 People's Bank Building.

Pottsville, Pa.—A number of towns in Schuylkill County have decided to join in building a trolley track and purchasing a fire engine that can be run from town to town as it is needed.

Wilkes-Barre, Pa.—Sealed proposals will be received for improvements to No. 3 engine house at the corner of Stanton street.—John Rineheimer, Chairman of the Joint Public Property Committee.

Central Falls, R. I.—It is proposed to erect a modern new fire station in the vicinity of Hedley and Fuller avenues, to be modernly equipped.

San Antonio, Tex.—Site on Government Hill is soon to be selected for a new fire house; improvements to fire fighting facilities will also be made at Laurel Heights.

Teague, Tex.—A fire company has been organized.—Dr. R. J. Sloat, Fire Chief.

Abbotsford, Wis.—A volunteer fire company has been organized by R. H. Treat. O. A. Young, and others.

ELECTRIC RAILWAYS

Ft. Smith, Ark.—The Fort Smith-Oklahoma Light & Traction Company has been organized in Fort Smith and articles of incorporation filed; the company is incorporated at \$30,000 and is formed for the purpose of owning and operating electric street railways in Arkansas and Oklahoma.—P. K. Reiss, I. S. Lowrey and others, Incorporators.

Canon City, Col.—The Kansas-Colorado R. R. Company has been incorporated to build an electric railway system from Canon City along the Arkansas River to Dodge City, Kan. Capital, \$5,000,000. Principal office at Pueblo.—S. H. Atwater, Canon City, President; E. W. Palmer, Pueblo, Secretary; W. O. Bourne, Pueblo, Treasurer.

Denver, Col.—The stockholders of the Denver City Tramway Company, at a special meeting, authorized a bond issue of \$25,000,000, of which \$13,000,000 will be used to retire the outstanding bonds and indebtedness and the remainder placed in the treasury and issued as needed for further extensions and improvements.

Lodi, Cal.—The Central California Traction Company will soon extend its system from Lodi to Acampo, thence in a north-easterly direction through the rich Christian Colony, a distance of about ten miles. Eventually the line will be continued on to Sacramento.

Chicago, Ill.—The Chicago, Wheaton & Western Railway Company has incorporated to construct an electric railway, which will tap the region north of Wheaton and connect the Aurora, Elgin & Chicago Railroad with West Chicago. Capital, \$10,000. J. Sidney Condit, J. Percy Strickland, D. W. Peters, R. B. Tabor and H. C. Wood, all of Chicago, Incorporators.

Eldorado, Ill.—The Secretary of State has issued articles of incorporation to the Saline County Traction Company; capital, \$5,000; the company will build an electric line from Eldorado to Carriers Mills in Saline County.

Anderson, Ind.—Interest has been revived in the proposed construction of an electric railway between Anderson and Lebanon by way of Noblesville by a company incorporated some time ago by Wallace B. Campbell, of Anderson, and R. H. Beaton, Frank

Humphreys and Wm. Knight, of Columbus, O. These men are interested in the construction of a power plant at Noblesville and it is proposed to secure the power from this plant.

Evansville, Ind.—The Evansville & Eastern Railway Company, with \$10,000 capital, has been incorporated to construct and operate street railway and interurban companies in Indiana and to furnish lighting facilities to Indiana cities and elsewhere.—John C. Lake, of Lake, Ind.; Marcus S. Sonntag and C. H. Battin, of Evansville, Incorporators.

Fort Wayne, Ind.—General Manager C. D. Emmons and Superintendent Frank Hardy, of the Fort Wayne & Wabash Valley Traction Company, recently went to Peru to take up a proposition with that city for the extension of the city street car tracks to the new city park recently established at the western limits of Peru.

Logansport, Ind.—The Logansport, Frankfort & Indianapolis Traction Company has been incorporated with \$25,000 capital to build an interurban road between Frankfort and Logansport.—Samuel H. Blakeslee, Cleveland, W. P. Clark, Kent, O., and others, Incorporators.

Seymour, Ind.—The Seymour & Brownstown Construction Company has been organized to construct an electric railroad between Seymour and Brownstown, a distance of 12 miles.

Sioux City, Ia.—L. S. Wakefield is interested in the proposed Sioux City, Spirit Lake Interurban Railway.

Abita Springs, La.—The St. Tammany Electric Railroad has petitioned the Town Council for right of way over streets of the village.

Stoughton, Mich.—The Cincinnati Construction Company has applied to Council for a franchise to build a line through Stoughton.

Redwood Falls, Minn.—R. F. Wherland, Manager of the Aberdeen Engineering Company, Aberdeen, S. D., is planning to build an electric road from North Redwood to Walnut Grove.

Springfield, Mo.—Geo. E. Macomber and W. A. Bixby, of the Springfield Traction Company, are interested in the proposed electric railway to connect Springfield and Carthage; estimated cost, \$2,000,000.

Cortland, N. Y.—Final surveys have been completed by the Cortland & Auburn Railroad Company and it is stated construction work will be commenced this month; estimated cost of the line is \$1,000,000. At the outset the company expects to haul its freight traffic by steam and the passenger traffic by gasoline motors. The road is to be changed later to a third-rail system and operated by electricity.

Cadiz, O.—The Wheeling, Cadiz & Tuscarawas Traction Company with \$10,000 capital has been incorporated to run a line from Bridgeport to Uhrichville.—Barclay W. Roland, Chas. S. Scott, and others, Incorporators.

Miami, Okla.—The Oklahoma, Missouri & Kansas Interurban Railway Company is incorporated to build a line from Miami to Lincolnville. Capital, \$100,000. Incorporators: D. W. Cooter, Franklin M. Smith, John Hall, R. H. Holton and F. O. Freeman.

Clatskanie, Ore.—The Clatskanie & Nehalem Valley Electric Railway Company construction contracts will be let within 60 days; the line will extend from Clatskanie through the Nehalem Valley for a distance of about 30 miles. Surveys are now being completed. There will be a 4,000-foot tunnel.—A. B. Kurtz, President, Clatskanie; J. H. Abbott, Portland, Chief Engineer.

Medford, Ore.—F. J. Blakeley has applied to Council for a franchise to operate a street railway in the city.

Georgetown, S. C.—H. C. Case, President of the Georgetown Electric Company, and Laurens Mouzon have petitioned for a street railway franchise; the proposed line will be about five miles long, making a belt around town.

Philadelphia, Pa.—The construction of an elevated railway from Front and Market streets to Bustleton avenue and Torresdale boulevard, eight miles distant, has been proposed in Select Council by Selectman J. Emory Byram, of the Frankford district.

Knoxville, Tenn.—Council has passed ordinance granting the Knoxville Railway and Light Company a franchise to lay three blocks of double tracking on Central street connecting with a double track north of Pearl place.

Marshall, Tex.—Marvin Turney, of this city, has made an application to Council for a franchise to build an electric car line in the city; Mr. Turney, who is a banker of this city, asks for the franchise and guarantees to build one and three-quarter miles of track, to operate the same within the first eighteen months and within two years to build and operate two and one-half miles. Council has the matter under consideration.

Weatherford, Tex.—The survey of the Fort Worth, Weatherford & Mineral Wells interurban here was completed to Millsap September 1, eight miles from Mineral Wells; the work of raising \$250,000 bonds has been started in the three cities.

Bellingham, Wash.—The Nooksack Valley Traction Railway Company, which is now surveying a route for the Bellingham-Ferndale interurban, has been incorporated, capital \$1,250,000; the company will run lines from Bellingham to Blaine and from Bellingham to Sumas, thus providing for both the Ferndale and Lynden branches.—W. P. Alward, J. S. Wheeler of Seattle, Edward Brown of Custer, J. William Welch of Ferndale, and others, incorporators.

Spokane, Wash.—The Spokane, Columbia & Western Railway Company has incorporated to build a line from Spokane to the mouth of the Spokane River near Miles, a distance of 75 miles, from which point it is reported the road will be extended northward along the Columbia River on the boundary of Ferry and Stevens counties, 100 miles. Surveyors are in the field, and it is expected part of the line will be constructed this year; capital, \$2,000,000.—Clyde M. Graves, Waldo G. Paine, W. G. Davidson, H. B. Ferris and Will G. Graves, incorporators.

The Idaho Railway & Navigation Company has been incorporated to build an electric railway from Deadman's Creek in the northern part of Garfield county through Asotin county and around the Blue Mountain Range to the Seven Devils mining district in Idaho, a distance of 77 miles; the single-phase system will be installed; the power house will be erected on Snake River and, together with the distributing stations, will cost \$64,000; capital, \$100,000.—D. Van Arsdale, President; Samuel L. Tate, Secretary; C. W. Hadley, General Manager.

Springdale, Wash.—The Washington Water Power Company is considering the building of a 20-mile standard-gauge line from Springdale, south of the junction of the Chamokane Creek and the Spokane River.—D. L. Huntington, General Manager, Spokane.

Tacoma, Wash.—Council recently took up the ordinance proposing to grant a franchise to the Pacific Traction Company for a line from Pacific avenue west on South Fifteenth street to connect with its line on Sprague avenue, and sections of the franchise were amended so as to provide for metal poles when the Council shall order other street railway companies to change from wooden to metal poles. The petitioners were also allowed to extend the line across Pacific avenue on Fifteenth street to the west line of the alley between Pacific avenue and A street. The ordinance was then ordered sent to the Judiciary Committee for recommendations. Another ordinance in which the same company asks for a franchise on A street from South Eleventh to Tenth street and on Tenth street from Pacific avenue to A street, was laid over temporarily; in the interim the city attorney will examine the sections of the ordinance.

Dodgeville, Wis.—The Dodgeville Electric Light and Power Company has been granted permission to erect an electric plant on the railroad land south of the Illinois Central passenger depot; company will erect a building and it is expected that an ice and heating plant will be operated in connection with the plant; the city will take possession of its buildings and boilers used by the Dodgeville Electric Light and Power Company, its ten-year franchise having expired.

Dunnville, Ont.—The Dunnville, Wellandport & Beamsville Electric Railway Company will let construction contracts about September 25; plans, etc., are at the office of Geo. Dunston, 43 Scott street, Toronto, Ont.; the line will be about 23 miles long and will connect Dunnville, Wellandport and Beamsville, across the Niagara peninsula from Lake Erie to Lake Ontario. Surveys are made. Right-of-way is partly secured.—James A. Ross, Wellandport, Ont., President; R. T. Gough, Chief Engineer; Bank British North America Building, Toronto.

Niagara Falls, Ont.—The Canadian Northern Railway Company has purchased the Niagara, St. Catharines & Toronto Railway (electric) and will extend same to Ft. Erie, opposite Buffalo, and also from St. Catharines to Toronto over right of way which it owns and establish an up-to-date electric train service between Toronto and Buffalo. Construction work on the line between St. Catharines and Toronto will be commenced early next spring.

Toronto, Ont., Can.—The Interurban Electric Company has been incorporated here with \$200,000 capital by E. S. Edminson, Oshawa, Ont.; Fred Grundy, A. N. Morine of Toronto, Ont., and others; the charter grants this company the rights to develop electricity and construct and operate electric car lines.

BRIDGES

Lepanto, Ark.—Citizens of Lepanto are making arrangements to build a \$3,000 steel bridge across Little River.

San Bernardino, Cal.—Plans are being prepared by M. L. Cook, County Surveyor, for a steel bridge over City Creek on Highland avenue.

San Diego, Cal.—Mr. Crowell, City Engineer, has submitted to the Board of Public Works plans and specifications for a one-span 50-foot bridge over Chollas Creek, to cost \$7,600.

San Jose, Cal.—The City Engineer, on motion of Brohaska, was directed to prepare estimates for concrete bridges to replace all of the city bridges, except the iron bridge across the Coyote; also concrete culverts for all street crossings over Canoas Creek and the Guadalupe within the city limits, said estimates to be used as a basis for a bond issue.

New Haven, Conn.—County Commissioners Jacob D. Walter and James Geddes of New Haven, with the Commissioners of Fairfield County, William S. Mean, Simeon Pease and John Brophy, made a joint inspection of bridges spanning waters dividing the two counties. The maintenance of these is borne jointly by the two districts. There are five bridges which the Commissioners examined to see that they are in proper condition, and to arrange for any repairs which may be necessary, the Washington bridge, Shelton, Zoar, Bennett's and Southbury bridges.

Athens, Ga.—The city and county have lost six bridges by the flood.—Address Mayor.

Augusta, Ga.—Through the efforts of the committees from the Chamber of Commerce and the Retail Merchants' Association, the North Augusta bridge approach will be repaired at once. Council has ratified the desire of Mayor W. M. Dunbar and has ordered the work begun and completed with all possible rapidity.

Dundee, Ill.—The Town Board has allowed the Highway Commissioners to add an additional 15 cents on one hundred dollars to the 60-cent levy, the limit by law, for new cement bridges to replace old wooden affairs that are now in a dangerous condition.

Kilbourne, Ill.—A project is on foot to build a bridge across the Sangamon River, connecting Kilbourne and Oxford.—Address City Clerk.

Ottawa, Ill.—Council, by a unanimous vote, favors the erection of an independent structure across the Illinois River at this point; bids will be advertised for, to be submitted by the next meeting of the Council early in October.

South Bend, Ind.—The Commissioners of St. Joseph County will ask for bids for constructing a bridge over Potatoe Creek in Liberty Township as soon as plans are completed.—A. J. Hammond, Engineer.

Terre Haute, Ind.—The County Commissioners have approved plans and specifications for the concrete girder bridge to be built over Sugar Creek on the Paris road, and Auditor Wallace has been ordered to advertise for bids on the bridge.

Valparaiso, Ind.—The Commissioners of Porter and Jasper Counties will soon ask for bids for the construction of a joint bridge over the Kankakee River, which forms the boundary line.

Louisville, Ky.—The construction of a bridge over Beargrass Creek, at Underhill and Kentucky streets, is contemplated by Board of Aldermen.

Baltimore, Md.—The Harbor Board will consider and probably approve plans to widen Pratt street bridge over Jones Falls to 120 feet; estimated cost, \$50,000.—Oscar F. Lackey, Chief Engineer, 2904 North Calvert street.

Wyandotte, Mich.—A company is being organized to construct a bridge from Wyandotte to Grosse Isle.—T. N. Jacobsen is interested.

Handsboro, Miss.—The city has voted \$6,500 bonds for the construction of a bridge across Bayou Bernard.

Jersey City, N. J.—The Hudson County Board of Freeholders have decided to issue \$350,000 bonds for erection of viaduct from Hoboken to Jersey City Heights; \$350,000 bonds for construction bridge over Hackensack River at Newark avenue, and \$18,000 bonds for erecting bridge over Morris canal, between Bayonne and Jersey City.

Ft. Hunter, N. Y.—The Commissioners of Highways of the towns of Florida and Glen are having specifications prepared and will soon call for bids (contractors to submit own plan and details) for a two-span steel bridge, 465 in length, over the Schoharie River, at Ft. Hunter; Wm. H. Davis, Bridge Architect, care State Engineer's office, Albany, will act as judge of plans submitted by various contracting companies.

Dayton, O.—Estimates are being prepared by County Engineer Klepinger for the construction of a bridge over the river on

Needmore road, north of the city, indicate that a vote on the proposition of issuing bonds will be necessary at the November election; the cost of the bridge must fall below \$18,000, or the public will have to vote on the issuance of bonds.—Address County Auditor.

Lillington, N. C.—Harnett County Commissioners contemplate rebuilding two steel bridges across Cape Fear River at Lillington and Duke, N. C., destroyed by recent flood; estimated cost, \$35,000.

Harrisburg, Pa.—The following bids are reported opened Aug. 29 for the construction of a reinforced concrete bridge over Paxton Creek at Hemlock street: Henry Opperman, \$7,062; Ferro-Concrete Company, \$4,499; R. T. & C. D. Stewart Contracting Company, Easton, \$4,795; Stucker Bros. Construction Company, \$5,350; Sherwood Eng. & Construction Company, York, \$4,945; S. W. Shoemaker & Son, \$6,759.

Pittsburg, Pa.—Finance Committee has recommended the ordinance proposing submission to the voters on November 3 of bond issues aggregating over \$7,000,000; the items include two free bridges over the Allegheny, to be built.

Pottsville, Pa.—The County Commissioners are asking bids on three new steel bridges in the county, to be located as follows: One in West Brunswick township, over Little Pine Creek; one in St. Clair, over Mill Creek, above Jones breaker, and the third over Mahoning Creek, in West Penn township.

Abbeville, S. C.—Six steel county bridges have been destroyed by flood.—Address G. N. Nickels, Supervisor.

Camden, S. C.—Kershaw county may build bridge.—M. C. West, County Supervisor.

Cheraw, S. C.—The city bridge across the Pee Dee River has been taken out by flood. City will rebuild, probably of steel.—John D. Smith, Chairman Bridge Committee.

Greenville, S. D.—Seven county bridges have been washed away by flood.—Address County Commissioners.

Spartanburg, S. C.—Twenty-five bridges have been washed away by flood.—Address Spartanburg Commissioners.

Provo, Utah.—The following matters were referred to the committees: Building cement bridges across the mill race; repairing east drain, changing the course of the mill race near the William M. Roy-lance warehouse.

Portsmouth, Va.—The Finance Committee has in hand the matter of an appropriation for \$3,500, to be used in making the Union bridge in Court street a lasting structure by means of constructing a concrete base.

Montpelier, Va.—Six Hanover County bridges have been washed away by flood.—Address County Auditor.

Tacoma, Wash.—A resolution to the effect that a bridge should be built across the Stuck River at Sumner, 400 feet below the site of the old bridge, was adopted by the County Commissioners, and instructions were issued to the County Engineer to prepare plans and specifications and present them as soon as possible.

Green Bay, Wis.—Bonds, \$150,000, have been voted for the purpose of building a bridge across the Fox River at Walnut street; Council some months ago decided upon building a bridge of the bascule type.—W. H. Reed, City Engineer.

MISCELLANEOUS

Sacramento, Cal.—New parks are being discussed for this city; the Park Board is investigating sites.

Visalia, Cal.—The question of new park is being discussed.—Address the Board of Trustees.

Canon City, Col.—G. W. Roe, of Pueblo, has completed plans for a new city jail to be of modern construction and erected at a cost estimated at \$35,000.

Fort Morgan, Col.—Plans have been accepted for new City Hall building.

New Canaan, Conn.—Plans have been completed and contracts are soon to be erected for new Town Hall.—Address H. Robert Weeks.

Brooklyn, Ia.—Temple, Burrows & McLane of Davenport, Ia., have plans for a new three-story City Hall.

Ottumwa, Ia.—Plans are under way for securing funds as soon as possible for new City Hall, to cost from \$60,000 to \$75,000.

Baltimore, Md.—That property known as Medfield on the Falls road, south of Roland Park, will probably be used for a city park.

Northampton, Mass.—Plans are soon to be selected for new City Hall.—Address the City Hall Commission.

Blwabik, Minn.—Council has decided on a new City Hall, to cost about \$12,000 after plans by Bray & Nystrum of Duluth, Minn.

Albany, N. Y.—Plans for three new large canal contracts, involving an expenditure of nearly \$4,000,000, have been approved

by the State Canal Board. Superintendent F. C. Stevens, of the State Department of Public Works, will soon advertise for bids. The contracts provide for excavating the new canal from Fox Ridge to Galen, Wayne County, nine and a half miles, at an estimated cost of \$1,360,000; excavating from Galen to Lyons, fourteen and a half miles, at a cost of about \$1,430,000; construction of locks at Mechanicsville, Stillwater and Northumberland, Saratoga County, and excavation at a cost of about \$1,175,000.

Jamaica, N. Y.—W. R. Griffiths, of Douglaston, is interested in the establishment of new public parks.

Lockport, N. Y.—The plans and estimates for the improvement of the 18-mile Creek, from East avenue to the southeasterly limits of the city, have been improved and are now being prepared by Chief Draughtsman McKelwey of the State Engineer's Division office in Rochester, before being forwarded to State Superintendent of Public Works Stevens. Hon. Charles F. Foley, who secured the passage of the appropriation of \$5,000 from the State Legislature for the work, is in Rochester and went over the plans with the engineers.

Syracuse, N. Y.—The residents of the North Side and members of the North Side Citizens' Association are interested in improvements to parks in that section.

Williamsville, N. Y.—Bids are now being received for new City Hall, to be of brick and stone, and to cost between \$15,000 and \$20,000.

Winston-Salem, N. C.—The city has adopted plans by J. S. Zimmermann, Municipal Building, to erect combination fire house and market.

Chardon, O.—A new town hall and fire station are to be erected; plans have been prepared by Architect L. M. Proctor and work will soon be commenced.

Massillon, O.—As a result of the visit of Charles D. Perkins, Chief Engineer of State Public Works, and Charles Hatch, a member of the State Board, both of Akron, a concrete retreating wall is to be built on the west bank of the canal, between Main and Erie streets.

Philadelphia, Pa.—City Architect Bledyn Powell has plans completed for new police station, to be erected at the corner of Oxford and Nineteenth streets. Structure to be two stories and 122x83 feet.

Pittsburg, Pa.—A provision for \$185,000 of bonds to build a rubbish disposal plant will be added to the people's bond issue schedule by the Finance Committee of Councils; Director E. G. Lang and Superintendent of Health J. F. Edwards have called on Chairman J. C. Wasson, of the Committee with a request for the plant.

Reading, Pa.—Three garbage bids were handed to City Clerk Weidner which were to have been opened in Councils, but they were returned to the bidders. They were the Reading Sanitary Reduction Company, holders of the present contract; John A. Rauen, who is said to represent the Dixon Company, of Pittsburg, and Charles Fisher, who, with W. Abbott Witman, some years ago had the garbage contract at York. Select Council refused to go into joint session with Common branch to open the bids until a supplementary clause for the collection of carcasses is inserted in the specifications, recommended by the Taxpayers' League. The time for opening bids has been extended thirty days, which will give all bidders a chance to look about for a suitable location and will enable other contractors to bid on the collection and disposal of garbage, and those who have already done so will merely be required to furnish additional figures for the collection of carcasses.

Washington, Pa.—Town Council contemplates the erection of a new municipal building at a cost estimated at between \$14,000 and \$18,000.

Aberdeen, S. D.—Plans are being prepared and contracts are soon to be awarded for a new City Hall, to be modern in every detail.

Hillsboro, Tex.—A new City Hall building is needed here to take the place of the old inadequate building now in use.

Portsmouth, Va.—The Police Department's urgent appeal for two bicycles and five pairs of handcuffs is in the hands of the Police Committee of Council.

The Street Committee has in hand the public dock matter; this is one which will undoubtedly require considerable work.

North Yakima, Wash.—Citizens are interested in a move for a new public park at Fairview.

Madison, Wis.—Ordinances have been passed authorizing the issue of \$25,000 bonds for market purposes and \$30,000 for park purposes.—O. S. Norsman, City Clerk.

BIDS RECEIVED

Tuscumbia, Ala.—Council has awarded the contract for paving thirteen streets to Hagler & Morris, of Sheffield, for about \$11,000.

Chico, Cal.—Bids were opened at Orland for the construction of a dam and dikes in connection with the government irrigation project for Glenn County. The bids varied from \$61,383 by Latus & Layaz of Oakland, to \$215,295 by Hunkin Brothers Construction Company of Cleveland, O. Sixteen of the big contracting firms of the country, including several from San Francisco, submitted proposals.

Los Angeles, Cal.—The following bids were received by the Board of Public Works for the construction of a sewer in San Marino street, from Catalina street to New Hampshire avenue, and other streets: J. S. McBride, \$14,444; N. P. Kovacevich, \$15,087; Rogers & Spencer, \$16,427; A. H. Calkins & Co., \$16,500; M. L. Hostetter, \$17,400; C. Ukropina and G. Perovich, \$18,000; F. H. Nusbickel, \$18,974; A. P. Pusich, \$19,950; W. N. Hendricks, \$20,800; George Wujacich, \$20,995. For construction of sewer in Sunset Boulevard, from Marion avenue to Douglas street and other streets: Joe Chutuk, \$3,888; R. N. Nikcevic, \$4,307; J. S. McBride, \$4,349; A. P. Pusich, \$4,450; George Wujacich, \$4,725; N. P. Kovacevich, \$4,882; Rogers & Spencer, \$5,287; A. H. Calkins & Co., \$6,000; F. H. Nusbickel, \$6,320; W. N. Hendricks, \$7,250.

Marysville, Cal.—The Western Bridge and Construction Company has been awarded contracts at \$3,525 for substructure and \$3,150 for concrete abutments, for the county bridge over Simmerly Slough.

Pasadena, Cal.—Council has awarded the contract for improving Madison avenue to the low bidder, Fairchild-Gilmore-Wilton Company at the price specified in their proposal on file for said work, to wit: Asphalt-concrete paving, 13.8 cents per square foot; cement curb, 27 cents per linear foot.—Heman Dyer, Clerk of the City.

San Jose, Cal.—Bids were opened by Council and referred to the Public Structures Committee as follows:

For a clock system: Henry Gard & Co. offered to install same for \$500.
For cleaning and painting the outside of the City Hall: H. F. Rawlings, \$1,098; Daniel McGinley, \$1,085; B. O. Ralston, \$1,290; K. F. Soderstrom, \$1,248; J. P. Jarman, \$1,060; F. Lenzen & Sons Company, \$1,027; Armstrong & Bowers, \$1,177.

Vault Doors: Perry-Hall-Marvin Safe Company, \$400; M. G. West & Co., \$500; Parcel's Safe Company, \$350.

Bids for furnishing a Treasurer's bond in the sum of \$75,000 for two years were referred to the Finance Committee, as follows: Empire State Surety Company, \$370; American Bonding Company, \$290; Etna Indemnity Company, \$590.

Thompsonville, Conn.—Bids were received by the Sewer Commissioners for the construction of the Enfield street sewer, and the contract has been awarded to A. B. Griswold, of New Britain, at \$4,451.

Wallingford, Conn.—Charles Millar & Son Company has been awarded contract for 68 short tons 8-inch and 83 tons 10-inch cast-iron pipe, at \$24.25, and the Patten Clay Manufacturing Company for 800 linear feet 15-inch D. & W. socket, double-strength vitrified pipe, at 33.7 cents per foot. A. B. Griswold has been awarded the contract for laying the pipe as follows: 800 feet 15-inch vitrified in 9-foot trench, at \$1.75; 2,520 feet 10-inch cast-iron in 4-foot trench, \$1.74; 4,200 feet 8-inch cast-iron, in 4-foot trench, \$1.64; 1,000 cubic yards rock excavation, at \$2.25; 50 cubic yards earth excavation, at 40 cents; wages of common labor, \$1.75 per day. Totals: A. B. Griswold, \$4,770.40; McCoy Engineering Company, \$4,917.60; Henry Spinart Construction Company, \$6,020; E. B. Robert, \$6,058; A. W. Byrne, \$6,122.80; Leonardo Luzio, \$6,237.—J. H. Child, Superintendent and Engineer.

Waterbury, Conn.—The Board of Public Works has awarded the contract for paving East Main street with Mack block to F. T. Ley & Co., Inc., 307 Main street, Springfield, Mass., at \$22.169.

Washington, D. C.—The R. J. Beall Construction Company has the contract for the construction of pipe sewers.

Bids were opened by the Commissioners for paving roadway of Anacostia bridge and roadway of bridge across Baltimore & Ohio Railroad track on line of extension of Monroe street, Anacostia, about 3,525 square yards sheet asphalt, and the contract has been awarded to the Brennan Construction Company of Washington; cost, about \$5,000.—C. B. Hunt, Chief Engineer of Highways.

Aurora, Ill.—The Roemheld Construction Company, 171 La Salle street, Chicago, 14-foot iron bridge over the Sangamon River in Newcomb Township.

Belvidere, Ill.—Council has awarded to the Joliet Steel Construction Company the contract for a bridge at Main street, at \$6,985; the Joliet Bridge & Iron Company put in three bids, but was a little higher for the same work.

Champaign, Ill.—The Elkhart Bridge Company, Elkhart, Ind., has been awarded the contract at \$5,013.

Chicago, Ill.—The lowest bid opened at the office of the Board of Trustees of the Sanitary District of Chicago, for the equipment of the 8-track rolling lift bridge, crossing main drainage channel at Campbell avenue, was that of the Modern Steel Structural Company, of Waukesha, Wis., at the lump sum bid of \$349,834, with extra work as follows: Extra structural steel, 50,000 pounds, 4.75 cents; machinery steel, 2,000 pounds, 9 cents; steel casting, 5,000 pounds, 10 cents; iron casting, 5,000 pounds, 20 cents; bronze 500 pounds, 40 cents; counterweight block castings, 50,000 pounds, 1.5 cents; timber and lumber put in place, 70,000 feet, \$40, and Portland cement concrete, 50 cubic yards, \$11; total, including extras, \$358,189. Totals of other bids, including extras: Kettler-Elliott Erection Company, Chicago, \$392,917; Strobel Steel Construction Company, Chicago, \$408,690; John T. Fanning & Co., Chicago, \$415,002; Pennsylvania Steel Company, Steelton, Pa., \$459,680.

Evansville, Ind.—Stinchfield & Reichert secured the contract from the Board of Public Works for paving with brick seven of the eight alleys ordered by the Board several weeks ago, at prices ranging from \$1.56 to \$1.65. They will use No. 1 Clinton brick. Bedford & Nugent get the alley between Wabash and Tenth avenues from Virginia to Iowa, at \$1.55. They also will use Clinton brick.

John L. Newman was the successful bidder for the construction of the following local sewers: Between Franklin and Michigan, from Baker to Garfield; between Virginia and Iowa, from Governor to Lafayette; between Columbia and Maryland, from Heidelberg to Lafayette; between Wabash and Tenth, from Iowa to Delaware; between Delaware and Columbia, from Governor to Lafayette. The price for the first sewer is \$1.25 and the price for the others is \$1.50.

Logansport, Ind.—The Westinghouse Electric and Manufacturing Company, of Pittsburg, Pa., has secured the contract for re-equipping the electric light plant for \$27,908; the American Boiler and Sheet Iron Works, of Indianapolis, secured the contract for an 80-foot stack for \$666.—C. F. Hammondree, City Clerk.

Michigan City, Ind.—The Board of Public Works has entered into contract with three manufacturing concerns for furnishing material for the extension of the city's water mains; the contracts were let to the A. M. Osburn Company, Chicago, for furnishing cast-iron water pipe, to the R. D. Wood Company of Philadelphia, for furnishing hydrants and valves and to the Roe Stephen Company of Detroit for furnishing of additional hydrants.

The Osburn Company will furnish 14,000 feet of 6-inch cast-iron water pipe, weighing 35 pounds per foot, at \$22.50 per ton, f. o. b.; 1,700 feet of 4-inch cast-iron water pipe, weighing 18 pounds per foot, at \$23.50 per ton, f. o. b., and all special castings required at \$49 a ton. The material is to be delivered by October 3.

The R. D. Wood Company will furnish 10 Matthew patent fire hydrants and the Roe Stephen Company will furnish 24 hydrants, 36 4-inch gate valves at \$7; ten 6-inch water gate valves at \$10.50; 36 4-inch adjustable valve boxes at \$2.90; 10 6-inch gate valves at \$2.90.

Rockville, Ind.—Bids were opened by the Town Board for water works, to include brick pumping station, 2 vertical boilers, 2 horizontal duplex pumps of a capacity of 170 gallons per minute each, and about two and one-half miles of 6 to 8-inch cast-iron pipe, and the contract was awarded to T. A. Hardman, of Olney, Ill., for \$12,450. Other bids received were: Watson & Sons, Terre Haute, Ind., \$13,876; Olds Construction Company, Fort Wayne, \$14,699; Standard Construction Company, Chicago, Ill., \$14,955; A. E. Werkhoff, Lafayette, Ind., \$16,727; E. J. Coleman, Rockville, Ind., \$16,924, and Mr. Schori, Peoria, Ill., \$17,525.—F. E. Strouse, City Engineer.

Cedar Rapids, Ia.—The contract for improving North Seventh street has been awarded to McCabe & Hollis, city, for \$13,410.—L. J. Storey, City Clerk.

Council Bluffs, Ia.—Council, at a special meeting, opened bids on the new fire engine house, four bids having been handed in. E. A. Wickham's bid on a concrete bridge over the creek at Bryant street and a foundation for the fire house was \$10,985. James Saguin bid \$11,900 and C. C. Norgaard bid \$11,275. W. D. Faus of Webster City, handed in a bid for \$9,167, which, however, does not completely cover the conditions as set forth in the specifications.

tions as drawn up by the City Engineer, as he does not figure the grading in with this sum, but says that he will do the necessary grading for 40 cents per cubic yard. The bids were referred to the City Engineer and Committee on Bridges and City Property for tabulation.

Davenport, Ia.—Sewer bids were opened and the contracts for three jobs were awarded to P. Connelly, who was the lowest bidder on all the propositions. The new sewers and the bids made by each company are as follows:

Prairie street, from Division to a point 200 feet west: Davenport Construction Company, 74 cents; Hydraulic Concrete Construction Company, 68 cents; P. Connelly, 60 cents.

Hamilton street, from Marquette to a point 300 feet east: Davenport Construction Company, \$1.10; Hydraulic Concrete Construction Company, \$1.18; P. Connelly, \$1.07.

Division street, from Prairie to a point 300 feet south: Davenport Construction Company, 75 cents; Hydraulic Concrete Construction Company, 78 cents; P. Connelly, 60 cents.

Des Moines, Ia.—Bryant & Ford, city, have the contract for paving West Thirtieth street with sheet asphalt; about 6,299 square yards, at \$2.09 per square yard.—A. J. Mathis, Mayor.

The Cook Construction Company has the contract for the construction of the Wright Grove sewer.

Mason City, Ia.—George Gabler, city, has secured the contract for 53,000 square yards creosoted wood block pavement at \$2.80 per square yard, and 8,900 square yards brick pavement, at \$1.90 per square yard.—F. P. Wilson, City Engineer.

Ottumwa, Ia.—J. C. Blunk, city, has secured the contract for 22,000 square yards vitrified paving brick, one course laid on 6-inch Portland cement concrete, sand fill, and 11,000 feet Portland cement curb, for a total of about \$50,000.—J. T. Brady, City Engineer.

Bonner Springs, Kan.—The contract for constructing a sanitary sewer system has been awarded to Michael Walsh, Kansas City, Mo., for \$16,000; Boyd Construction Company, of Kansas City, Kan., secured the contract for constructing a storm water sewer for \$2,500.—D. Clarke Kelly, City Clerk.

Bath, Me.—The Hanscom Construction Company, of Boston, Mass., has secured the contract for constructing concrete block sewers for \$25,975.—S. Litchfield, City Engineer.

Livermore Falls, Me.—Bids were received by Metcalf & Eddy, Consulting Engineers, 14 Beacon street, Boston, Mass., for laying cast-iron pipe and appurtenances and building a reservoir in Livermore Falls, for the Water District. Bids were as follows: (A) total including pumping station: R. D. Shanahan, 102 Exchange street, Portland, Me. (awarded contract), (A) \$12,619, (B) \$11,819, (C) \$11,819. (B) \$11,819. (C) \$11,819. (D) \$11,819. (E) \$11,819. (F) \$11,819. (G) \$11,819. (H) \$11,819. (I) \$11,819. (J) \$11,819. (K) \$11,819. (L) \$11,819. (M) \$11,819. (N) \$11,819. (O) \$11,819. (P) \$11,819. (Q) \$11,819. (R) \$11,819. (S) \$11,819. (T) \$11,819. (U) \$11,819. (V) \$11,819. (W) \$11,819. (X) \$11,819. (Y) \$11,819. (Z) \$11,819. (AA) \$11,819. (AB) \$11,819. (AC) \$11,819. (AD) \$11,819. (AE) \$11,819. (AF) \$11,819. (AG) \$11,819. (AH) \$11,819. (AI) \$11,819. (AJ) \$11,819. (AK) \$11,819. (AL) \$11,819. (AM) \$11,819. (AN) \$11,819. (AO) \$11,819. (AP) \$11,819. 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Lowest bidder for furnishing valves was the Rensselaer Manufacturing Company, Troy, N. Y., at \$360.

Baltimore, Md.—Bids were opened by the Board of Awards for furnishing and erecting a pump slip indicator on each of the six pumping engines in the service of the Water Board, and the contract has been awarded to the Pitometer Company, 220 Broadway, New York, N. Y.—Alfred M. Quick, Water Engineer.

The Board of Awards has awarded contracts for supplying valves to the Water Board to the Coffin Valve Company of Boston, Mass., and the Rensselaer Valve Company, of Troy, N. Y.; total cost, about \$8,000.

Gardner, Mass.—Bids were received by Charles E. Thompson, Superintendent State Colony for the Insane, Gardner, for furnishing about 108 tons of 6-inch cast-iron water pipe and specials; contract was awarded to Chas. Millar & Son Company, Utica, N. Y., at \$23.40 per ton for pipe, and \$50 per ton for special castings.—H. K. Barrows, 6 Beacon street, Boston, Mass., is Engineer.

Haverhill, Mass.—Proposals for granolithic sidewalks were opened by the Street Committee, this being the first time that bids have been asked for this work; William F. Duffee & Co., city, bid \$1.50 a square yard for the work, according to the

specifications drawn up by City Engineer Lucius and secured the contract, as it was the lowest bid. The other bids were as follows: Simpson Bros. Corp. of Boston, \$1.80 per square yard; Haverhill Cement Stone Company, W. W. Ham, proprietor, \$1.50 for work where there was no excavating and \$1.70 for work where excavating and niling was needed; Warren Bros. Company, \$1.58 per square yard. The specifications upon which all the contractors were supposed to bid called for excavating and niling.

On motion of Mayor Wood this granolithic work will be laid out by the City Engineer, thus taking it out of the hands of the Superintendent of Streets, who has always superintended the work previously.

Russell, Mass.—Eight months after high water and ice carried away the bridge over the Westfield river connecting the village of Russell with the railroad station, bids for a new bridge were opened. The three lowest bidders, the time wanted and the amount of bids are as follows: Louis R. Snoemaker & Co., Philadelphia, four months, \$11,905; Boston Bridge Works, four months, \$12,791; Berlin Construction Company, Berlin, Conn., 64 days, \$12,900. The contract was awarded to the firm first named.

West Springfield, Mass.—The Board of Water Commissioners opened bids for the work on the Bear Hole niter, George W. Hayden of West Springfield and the Springfield Excavating and Construction Company being the only bidders on the work; the Board accepted the figures of the Springfield company, \$6,597.50.—F. A. Barbour, Boston, Consulting Engineer.

Hancock, Mich.—The contract for the construction of the West Hancock sewer system has been awarded to Phil O. Sheridan, at \$6,968, and for sewer pipe to Astrid S. Rasing, of Chicago, Ill., at \$744.

Owosso, Mich.—The contract for installing two Scotch marine boilers for water works has been awarded to Young & Summers, of Toledo, O., for \$6,500.—A. H. Dumond, City Clerk.

Saginaw, Mich.—The Board of Public Works has awarded the contract for paving with concrete macadam North Second street to West North Sager, for \$10,318.

St. Paul, Minn.—O'Neil & Preston have the contract, at \$1,573, for the construction of a sewer on Osceola, from Milton to Chatsworth street, and Christ Johnson secured the contract at \$557 for the construction, of a sewer on Mississippi street, from Jenks to Lawson street.

Scranton, Miss.—Pierson & Richardson, of Meridian, have secured the contract for constructing concrete curbs, gutters and sidewalks on Delmas and Krebs avenues and other streets for about \$25,000.

Holdrege, Neb.—The contract for constructing sewer in District, has been awarded by Council to Lang & Browitt, of University Place, at \$18,785.

Omaha, Neb.—Hugh Murphy was apparently low on paving and curbing in six of the seven districts for which bids were received September 1, his bid being \$1.30 for Class D asphalt and \$1.81, \$1.84 and \$1.87 on Class B concrete, \$2.12 and \$2.15 on Class E brick block, \$1.48 on Class C brick block, including grout, 10 cents for grout, \$1.40 for stone gutters relaid and stone pavement relaid between tracks, 20 and 30 cents allowance for stone on street, \$3 per cubic yard for broken stone base, \$1 and \$1.25 for new stone curb, 15 and 25 cents for curb reset, 20, 30 and 40 cents for grading, 25 cents for headers. Bryant-Ford-McLaughlin Asphalt Paving Company was low in District No. 1001, bidding \$2.50 for special pavement, \$1.55 for stone gutters relaid and \$1.60 for stone pavement relaid between tracks; 80 cents for new stone curb and 20 cents for curb reset.—Andrew Rosewater, City Engineer.

Pilger, Neb.—F. H. Wheeler, of Havelock, has secured the contract for constructing waterworks for \$9,896.

Garfield, N. J.—Contracts for extension of water distribution system, etc., were awarded as follows: For extension of water pipes, to Geo. Sargent, Jr., for \$11,300, steel standpipe, 30x45 feet, to Tippet & Wood, Phillipsburg, N. J., for \$5,469, and for pump and boiler house and reinforced concrete pump pit and reservoir, to Sargent & Warren, for \$7,000.—Colin R. Wise, Borough Engineer.

Hopewell, N. J.—Thomas J. McGovern, of Trenton, was low of seven bidders for the construction of a reservoir, at \$10,350, and will secure contract. The bids also call for the construction of 5,000 feet of 8-inch pipe.

New Brunswick, N. J.—The following bids were received by Council for constructing sewers on Remsen avenue, Sandford street and George's road: Thomas Meehan & Sons, Philadelphia, 10-inch pipe on Remsen avenue, per linear foot, \$1.11; 10-inch pipe on Sandford street, \$2.47; 15-inch pipe on George's road, \$2.12; 5-inch

Ys for 10-inch pipe, each, 83 cents; 5-inch Ys for 15-inch pipe, \$1.25; 5-inch pipe for extending and connecting, 13 cents; manholes, each, \$65; flush tanks, each, \$85. Abraham Jelin, 391 George street, New Brunswick, 10-inch pipe on Remsen ave., per lin. ft., \$1.54; 10-inch pipe on Sandford street, \$4.48; 15-inch pipe on George's road, \$2.49; 5-inch Ys for 10-inch pipe, each, 89 cents; 5-inch Ys for 15-inch pipe, \$1.10; 5-inch Ys for extending, 15 cents; manholes, each, \$65; flush tanks, each, \$50. H. V. Oliver Contracting Company, New Brunswick, 10-inch pipe on Remsen avenue, per linear foot, \$1.77; 10-inch pipe on Sandford street, \$5; 15-inch pipe on George's road, \$2.75; 5-inch Ys for 10-inch pipe, each, 75 cents; 5-inch Ys for 15-inch pipe, \$1.25; 5-inch extending and connecting, 10 cents; manholes, \$80; flush tanks, \$80. McGovern & Hillman, New Brunswick, 10-inch pipe on Remsen avenue, \$1.70; 10-inch pipe on Sandford street, \$4.75; 15-inch pipe on George's road, \$2.40; 5-inch Ys for 10-inch pipe, 62 cents; 5-inch Ys for 15-inch pipe, \$1.22; 5-inch for connecting and extending, 8 cents; manholes, \$75; flush tanks, \$60. James H. Sheehan, New Brunswick, 10-inch pipe on Remsen avenue, \$1.45; 10-inch pipe on Sandford street, \$2.63; 16-inch pipe on George's road, \$1.90; 5-inch Ys for 10-inch pipe, 54 cents.—Frederick Schneider, City Engineer.

Point Pleasant, N. J.—The contract for the construction of a system of sewers and drains has been awarded to Field, Barker & Underwood, Inc., Arcade Building, Philadelphia, Pa., at the following bid: One 600-foot iron ocean outlet and anchor, \$2,350; 1 emergency outlet and valve, \$85; piling, per pile, \$15; 4,890 feet 12-inch terra cotta sewer, including Ys, 80 cents; 4,100 feet 10-inch, 60 cents; 3,250 feet 8-inch, 49 cents; 7,755 feet 6-inch, 40 cents; 705 feet 12-inch cast-iron sewer, including Ts, \$1.61; 1,355 feet 10-inch, including crosses, \$1.29; 100 feet 8-inch, \$1.23; 550 feet 6-inch, 80 cents; 22 manholes, each, \$50; 3 manholes, with flushing gates, \$20; 21 inspection holes, \$6.50; 4 flush tanks, each, \$80; extra water supply for tanks,

\$8,371; Sergeant & Warren, \$11,549.—A. W. Vars, Town Surveyor.

White House, N. J.—The following bids were received for building low truss steel or wrought iron bridge on road from Ringoes to Wertsville, Hunterdon County, N. J., 57-foot span, 14 feet wide: Kruse-Kemper Company, Ambler, Pa., \$960; Dover Boiler Works, Dover, N. J., \$875; Canton Bridge Company, Albany, N. Y., \$950; Newton A. K. Bugbee & Co., Trenton, N. J., \$1,495; Berlin Construction Company, New York, \$879; John W. Scott, \$565; awarded to last named.—Grant Davis, County Engineer.

Brooklyn, N. Y.—Bird S. Coler, Borough President, has awarded contract to O'Grady Bros., 72 North Eighth street, for regulating and repaving with granite on concrete foundation, Kent avenue, from Broadway to North Sixth street, at \$24,367.

Contract has been awarded to Atlanta Contracting Company, 343 East Ninety-first street, at \$20,767, for regulating and repaving with granite pavement on a concrete foundation, Columbia street, from Harrison street to Hamilton avenue.

Buffalo, N. Y.—Francis G. Ward, Commissioner of Public Works, has awarded to B. I. Crooker, 4 Builders' Exchange, the contract for erecting a one-story brick and structural steel boiler house, 90x200 feet, at the North Pumping Station, Niagara River, for \$40,148.

The contract for structural steel for viaduct over tracks of the New York Central Railroad Belt Line at Kensington avenue, to be erected by the New York Central Railroad Company and the Grade Crossing Commission of Buffalo, has been awarded to the McClintic-Marshall Construction Company, of Pittsburgh, Pa. The Terry & Tench Company, of New York City, will erect the fabricated steel, which will aggregate about 450 tons. The concrete abutments are already completed. The abolishment of grade crossings on the New York Central Company's Belt Line will require 11 other steel viaducts and bridges, and contracts for same will be placed shortly by the New York Central Company from its New York City offices. Contracts for the concrete abutments, etc., for these bridges have been let to the Eyre Schumacher Company, of Philadelphia, Pa.

Gloversville, N. Y.—C. D. Osborn, of Binghamton, has secured the contract for paving with brick 11,164 square yards on North Market street, at \$30,979.

Johnstown, N. Y.—A. D. Osborn, of Binghamton, has secured the contract for paving North Perry street, bids for which were received on Aug. 31 at the following bids: 4,826 feet straight stone curb, 80 cents; 567 feet straight stone headers, 65 cents; 152 feet circular curb, \$1.50; 80 driveway corners, each, \$1.40; 1,194 cubic yards excavation for railroad, 50 cents; 570 cubic yards broken stone for railroad, \$2, and 11,164 square yards Pittsburgh-Buffalo block, \$2.21.—Frank Bagaskie, City Clerk.

Niagara Falls, N. Y.—The following bids were received for a sewer in Fourth street, from Third street to Cedar avenue, preparatory to the proposed paving: Nick Wolfe, \$1,340; W. A. Shepard & Co., \$1,956; Wolfe was awarded the contract.

The paving bids on Little Fourth street are as follows: Read-Coddington Company: Asphalt block, \$3,740.90; Hassam, \$3,049. H. P. Burgard Company, asphalt, \$3,820.80; brick, \$3,946.60; Barber Asphalt Company, \$3,986.40.

The bids on Fourth street, from Cedar avenue to Niagara street, are as follows: Read-Coddington Company, \$28,061.10; Hassam, \$22,649.75; H. P. Burgard Company, asphalt \$26,296.70, brick \$26,784.55; Barber Asphalt Company, \$27,004.49. No action was taken on the paving bids, in accordance with the city charter, which requires that the proposals lay on the table for a specified time, in order to give the property owners an opportunity to elect the kind of material to be used.

Peekskill, N. Y.—Bids were received by the Board of Water Commissioners for construction of water filters, pure water reservoir and appurtenances. Contract has been awarded to Harvey B. Sproul, of Binghamton, N. Y., for \$52,400. The Eddy Valve Company, of Waterford, secured the contract for the valves, at about \$1,236.—L. W. Reynolds, City Engineer; Hazen & Whipple, Consulting Engineers, 103 Park avenue, New York.

Rochester, N. Y.—The Board of Contract and Supply has awarded contracts as follows: Whitmore, Rauber & Vicinus, 279 South avenue, trap rock pavement on Charlotte street, \$8,479; gravel pavement on Schaefer street, \$8,479; Holder & Bauman, \$4,460; Dwyer & Barnard, 36-inch hemlock water main in Culver road, from University avenue to Atlantic avenue, at \$7,020.

Seneca Falls, N. Y.—C. T. Hookway, Syracuse, was awarded contract, at \$7,650, for sewage disposal plant for the Board of Village Trustees.

Watertown, N. Y.—Three bids were re-

ceived for proposed improvements in West Mullin, Pine and Maple streets: Mulderry Bros., of Albany; C. D. Hodge & Co., of Watertown, and Thomas J. Ward, of Watertown. The prices submitted were as follows: Mulderry Bros., earth excavation, \$1.20; rock excavation, \$3.25; No. 12 tile, 73 cents; No. 10 tile, 65 cents; No. 8 tile, 60 cents. C. D. Hodge & Co., earth excavation, 98 cents; rock, \$3.50; No. 12 tile, 52 cents; No. 10 tile, 37 cents; No. 8 tile, 27 cents. T. J. Ward, earth excavation, 65 cents; rock, \$2.95; No. 12 tile, 45 cents; No. 10 tile, 36 cents; No. 8 tile, laid, 26 cents.

White Plains, N. Y.—E. L. Erbeck has been awarded contract for 6,630 square yards vitrified block on 4-inch 1:2½:5 concrete foundation at \$2.48 per square yard, including excavation; Tony Richards was awarded contract for 3,320 square yards at \$2.20, and 8,234 square yards 7-inch macadam at 85 cents. E. L. Erbeck was also awarded contract for resetting 1,170 feet 4x16-inch old curbing, at 12 cents, and for setting 6,665 feet 4x16-inch new curb at 53 cents; Tony Richards will reset 1,965 feet old curb at 20 cents and set 12,225 feet new curb at 55 cents; Petro Luciano will reset 310 feet old curb at 14 cents and set 866 feet new curb at 60 cents; E. L. Erbeck has contract for 6,400 linear feet 2-inch bluestone sidewalk, 4 feet wide, on 2-inch sand foundation, at \$1 per linear foot; Tony Richards, 10,800, at 95 cents, and Petro Luciano, 833 feet, at 90 cents.—James H. Goerke, Village Engineer.

La Moure, N. D.—Gilbert W. Haggart of Fargo was awarded a contract for the installation of water mains here; \$25,000 covers the work; Mr. Haggart has a \$35,000 contract here and is now at work on it.

Athens, O.—The County Commissioners have awarded the paving of the road leading south, from the hospital gate to the intersection of the Albany and Jerseyville road, to Bowers Bros. at \$13,463.87.

Barberton, O.—On recommendation of the Street Committee, one car of crosswalk stone, 18 inches wide and 8 inches thick, at 13 cents per foot, has been ordered from the Bailey Stone Company and one car 3 feet wide and 8 inches thick, at 14 cents, from the McDermott Stone Company.

Cincinnati, O.—The contract for the improvement of Duckcreek road from the city corporation line to the Deerfield road, has been awarded to John W. Shields & Bro., whose bid on 34,143 square yards of tarvia for the road was but 5 cents per square yard.

Cleveland, O.—Thomas W. Nicholson was awarded the contract at \$124,320 for the construction of a portion of the intercepting sewer between East Fortieth street and Marquette avenue, N. E.

Dayton, O.—Bids were opened by the Board of Public Service for constructing sanitary sewer in District 5 and contract was awarded to Hecker & Kirchner, at the following bid: Laying 14,550 linear feet 8, 12 and 18-inch vitrified pipe sewer, at 15 cents, 25 cents and 40 cents; 1,350 linear feet 30-inch concrete sewer, \$1, and 10,050 linear feet 4, 5 and 6-inch drain, 4, 5 and 6 cents per linear foot; 15,825 linear feet excavation and backfill, 25 cents to 80 cents per linear foot; 34 manholes, each, \$20; 15 lampholes, each \$25; 15 flushtanks, each, \$25, etc.; total, \$14,027. Totals of others bids: C. H. Hoglen, \$15,983; T. J. Backus Company, \$16,420; Shafor & Dill, \$16,542; Reese & Larkin, \$16,791, and W. McCarthy & Co., \$16,852.

The only bid received by the Board of Public Service for cleaning the Lorain avenue and other storm water sewers in the east end was that of W. H. Stewart for \$9,985, and it is considered too high.

Defiance, O.—Enck & Shooan, of Lima and Toledo, are the successful bidders on the North Clinton street paving.

Fremont, O.—The B. P. S. has opened bids for the construction of the Hickory street sewer. F. D. Meyers is the low bidder.

Lorain, O.—Council has instructed the Service Board to contract with the Lorain Realty Company for the construction of a sewer on Frank street.

Norwalk, O.—Bids for sidewalk construction, concrete and sawed stone, have been opened by the Board of Public Service, but no award has yet been made. Four bids, one for cement and three for sawed stone, were received, as follows: Bremser Brothers, Norwalk, cement, per square foot, labor, 4 cents; material, 6 cents; excess cut, per square yard, 25 cents; excess fill, per square yard, 75 cents. H. Hahn, Cleveland, 2-inch sawed stone, per square foot, labor, 3½ cents; material, 9½ cents; 2½-inch sawed stone, per square foot, labor, 4 cents; material, 11 cents; excess cut per cubic yard, 80 cents; excess fill per cubic yard, gravel, \$1; same, cinders, 70 cents. Material Ohio quarries stone. Fred H. Smith, Norwalk, 2-inch sawed stone, per square foot, labor, 2½

cents; material, 10 cents; 2½-inch sawed stone, per square foot, labor, 2½ cents; material, 11 cents; excess fill per cubic yard, \$1. The bid includes 2½-inch sand cushion and material from Berlin Heights quarries. If Cleveland Stone Company or Ohio Quarries Company material is desired the price for 2½ flagging will be 11½ cents per square foot, with labor at 2½ cents per square foot. Querin Studer, Norwalk, 2-inch sawed stone, per square foot, labor, 2½ cents; material 10½ cents; 2½-inch sawed stone per square foot, labor, 2½ cents; material, 12 cents; excess cut per cubic yard, 35 cents; excess fill per cubic yard, \$1. Material, Cleveland Stone Company quarries.

Springfield, O.—The Hall-Cronan Company, of Dayton, was awarded the contract for a steel-concrete bridge over Buck Creek by the Board of Public Service; the bid was \$1,000 higher than that of the lowest bidder.

Steubenville, O.—The Board of Public Service has awarded the contract for the construction of a sewer on Sixth avenue from Clinton street to Contor avenue to Joseph Edwards.

Utica, O.—Bids were received for paving Main street with vitrified repressed paving brick and the contract was awarded to Shoup & Co., of Dayton, at the following bid: 10,480 feet curbing and gutter, 48 cents; 5,132.42 cubic yards excavation, 30 cents; 18,054 square yards rolling and pud. subgrade, 4 cents; 18,054 square yards 8-inch gravel, 24 cents; 18,054 square yards 2-in. sand, 4 cents; 15,264 square yards cement filler, 6 cents; 15,265 square yards Townsend block, 90 cents; total, \$27,047. Totals of other bids received on Townsend block: Theo. W. Hill, Bellefontaine, \$29,378; W. H. Ringwall, Chillicothe, \$28,486; Adams Brothers, Zanesville, \$29,486; Hines & Bowlin, Frankfort, Ind., \$28,558; W. S. Pace, Sandusky, \$27,100; Harrison & Dean, Huntington, W. Va., \$32,611; F. H. Kinney & Son, Newark, \$31,018; W. H. Ralston, Mt. Vernon, \$29,254; E. A. Freshwater Sons, Bucyrus, \$30,291; Brennen & Nutter, Newark, \$31,925; Geo. J. Brock & Son, Coshocton, \$27,898; A. Wroe & Son, Dayton, \$28,356.—H. L. Maddocks, Newark, O., Engineer.

Wauseon, O.—The Asphalt Pavement Block Company has been awarded contract for 2,164 square yards asphalt block on 6-inch concrete foundation, at \$1.72, total, \$3,722.08; Chas. Killen bid \$4,176.02, and Saunders & Bernath, \$4,493. The Asphalt Block Pavement Company also has contract for setting 1,740 linear feet new 4x18-inch stone curb, at 36 cents, total, \$626.40; Chas. Killen bid \$696 and Saunders & Bernath \$678.—L. H. Deyo, City Clerk.

Tulsa, Okla.—Swift & Ault have secured contract for constructing four settling basins for the water works for \$26,705.

Alliance, Pa.—The following is a list of bidders for the construction of Municipal Building for the Borough of Alliance, P. O. address Northampton: Robert S. Rathbun, \$16,595; Harvey Silfies, \$15,375; John M. Campbell, \$15,034; A. W. Hirst, \$14,892; Louis Praetorius, \$14,725; Best & Lehr, \$14,692.33; M. T. J. Ochs, \$14,870; E. T. Zellner, \$15,225. Contract awarded to A. W. Hirst, Northampton.—L. J. H. Grossart, Borough Engineer.

Harrisburg, Pa.—The bid of the Ferro-Concrete Company, of this city, for the building of the bridge across Paxton Creek on Hemlock street was accepted and Select Council approved the awarding of the contract to that company at its figure of \$4,449.

Media, Pa.—The contract for constructing the bridge over Cobbs Creek, at Woodland avenue, between Delaware and Philadelphia counties, has been awarded to the American Paving and Construction Company, 211 South Ninth street, Philadelphia, at \$19,300.

Philadelphia, Pa.—Bids were opened by the Bureau of Water for the construction of sand washing apparatus at the Upper and Lower Roxborough and Torresdale filter beds; George P. Baldwin bid \$5,500 on his own plan; on the bureau plans, the bidders were E. M. Nichols, \$11,500, and Link Belt Engineering Company, \$22,950.

Director Clay, of the Department of Public Safety, has awarded the contract for the erection of a new police station and patrol garage on the east side of Woodland avenue, south of Market street, to Henry E. Beton, for \$48,449, of which \$42,545 is for the police station and \$6,404 for the garage.

Ridgway, Pa.—M. Applegate & Son, Alliance, O., have secured the contract of a sewerage system for \$5,000.—G. Greiner, Borough Secretary.

Westchester, Pa.—F. W. Bornemann & Co., of Lansdowne, have secured contract for constructing 20,360 feet of state road in Penn Township.

Wilkes-Barre, Pa.—H. G. Mulock Company, of Atlantic City, N. J., has secured the contract for 12,210 square yards of

brick paving and curbing Hancock, Washington and Grant streets, for about \$25,000.
Woonsocket, R. I.—The contract for constructing a reinforced-concrete bridge on Sayles street has been awarded by the city to Scheuermann & Peck, of Albany, N. Y.—Frank H. Mills, City Engineer.

Spartanburg, S. C.—W. Frank West, County Supervisor, has awarded the contract at \$5,100 to A. D. McClain, Spartanburg, for the construction of three steel bridges.

Brownsville, Tenn.—W. B. Troy, of Camden, has secured the contract for graveling about six miles of streets throughout Brownsville, at 45½ cents per square yard.

Nashville, Tenn.—The following are the bids opened by the Board of Public Works for machinery to be installed in the city's electric light plant: (a) turbine and accessories; (b) excitors, etc.; (c) pumps, 1 air and 3 water; (d) steam piping; (e) switchboards and accessories; (f) steel water tank; Allis-Chalmers Co., Milwaukee, Wis., (a) \$43,490; (b) \$6,740; (c) \$3,925. Braid Electric Co., Nashville, (b) \$7,040; (e) \$5,695. Nashville Machine Co., Nashville, (c) \$3,673; (d) \$2,725; (f) \$267. John Bouchard & Sons, (d) \$3,068. Westinghouse Electric and Mfg. Company, Pittsburgh, Pa., (e) \$4,865.

Salt Lake City, Utah.—Three bids were received for the gas generating plant at the pumping station. These bids were submitted by the Salt Lake Hardware Company and the Fairbanks-Morse Company. The former offered to install a gas suction apparatus using lignite or bituminous coal for \$7,354, and one using anthracite for \$5,200. The Fairbanks-Morse people offered a plant for \$6,485. The bids were taken under consideration.

Brandon, Vt.—The contract for the construction of the water supply system has been awarded to John E. Palmer, of Boston, Mass., for about \$30,650.

St. Albans, Vt.—Bids were opened for the construction of sewers and the contract was awarded to the Osgood Contracting Company, of Nashua, N. H., at the following bids: Laying pipe sewers, 1,225 feet 33-inch, \$1; 1,241 feet 30-inch, 80 cents; 1,268 feet 24-inch, \$1.05; 1,075 feet 20-inch, 75 cents; 640 feet 18-inch, 70 cents; 736 feet 15-inch, 65 cents; 2,893 feet, 12-inch, 68 cents to \$1.35 per foot; 1,860 feet 10-inch, \$1.60 and \$1.40; 2,149 feet 8-inch, 59 and 50 cents; 300 feet 6-inch, 35 cents; 400 feet 4-inch, sub-drain, 25 cents, etc.; total, \$13,941. Totals of other bids: Ablett & Bowes, of Cohoes, N. Y., \$15,012, and Rowe Contracting Company, \$14,112.—A. W. Dudley, Manchester, N. H., Engineer.

Bellingham, Wash.—The contract for the construction of the Garden street storm sewer was let to Riddle, Kavanagh & Hawkins by the Board of Public Works; the amount of the bid was \$9,396; the Bellingham Construction Company, the only other contestant for the work, bid \$10,208. The work is to be completed by February 1.—H. W. Troutman, City Engineer.

Seattle, Wash.—The following are the bids opened on August 22 for constructing sewers in Atlantic street: Paul Stemstrup, 422 Hinckley Block, \$63,958, awarded contract; Lance & Peters, Walker Building, \$68,804. Stemstrup's figures were as follows: 15,200 linear feet 8-inch pipe sewer, \$1.65; 2,880 linear feet 10-inch pipe sewer, \$1.90; 2,730 linear feet 12-inch pipe sewer, \$2.25; 1,920 linear feet 15-inch pipe sewer, \$2.60; 45 4½-foot manholes, \$78; 15 flush tanks, \$120; 7 catch basins, double inlet, \$80; 38 catch basins, single inlet, \$70; 990 linear feet 18-inch pipe sewer, \$3.30; 484 linear feet 24-inch x 36-inch oviform brick sewer, \$5.65; 39 3½-foot manholes, \$75; 260 linear feet wooden extensions for manholes, \$1; 50 linear feet 10-inch pipe culvert, \$1.50; 10 sand boxes, \$30; 15 cubic yards concrete, \$12.

Burlington, Wis.—N. F. Reichert, of Racine, has secured the contract for constructing vitrified pipe sewers, about 18,417 feet of 20 to 6-inch pipe, 51 manholes and 12 lampholes, at about \$12,250.

Fond du Lac, Wis.—G. H. Stanchfield has been awarded a contract for laying 7,722 square yards cement walks, 1½-inch granite screening surface, mixed 1:6:1, on a 5-inch concrete foundation, mixed 1:2½:5, including 860 cubic yards grading, for \$1,245 per square yard. The totals of all bids were: J. Rassmussen & Sons Company, Oshkosh, \$12,331.80; G. H. Stanchfield, Fond du Lac, \$11,840.49; McCugo Construction Company, Fond du Lac, \$12,148.60. G. H. Stanchfield was also awarded a contract for laying 4,488 linear feet combined curb and gutter for 42 cents per linear foot.—E. P. Fitzgerald, Chairman Board of Public Works.

Janesville, Wis.—The People's Construction Company, Davenport, Ia., was low bidder at \$45,000, for a main outlet sewer.—A. E. Badger, City Engineer.

The Chicago Drainage Construction Company, 124 Quincy street, Chicago, has the

contract for constructing two tile sewers; cost, \$20,000.—A. E. Badger, City Engineer.

Chairman Buchholz, of the Fire and Water Committee, submitted a report that negotiations for a new steam fire engine had been conducted and that the committee favored the Continental type made by the Ahrens Company, of Cincinnati, which could be had, including a \$200 gas heater, for \$5,875; a resolution and an order empowering the committee to enter into a contract for this engine whenever the necessary money should be available were carried.

Kewaunee, Wis.—Bids were opened by W. Wiesner, City Clerk, for constructing an electric light plant, to comprise in the main, a brick building, pole line and wiring, one 50-kw. 2-phase alternating current dynamo, arc light equipment and 85-h.p. high-speed compound condensing steam plant, and contracts have been awarded as follows: To the Albrecht Manufacturing Company, of Kewaunee, at \$3,680, and the Langstaedt & Meyer Construction and Supply Company, of Appleton, Wis., at \$12,870.—Oscar Claussen, St. Paul, Minn., Engineer.

Plymouth, Wis.—Schreiter & Connolly, of Manitowoc, have secured a contract for constructing a section of sewerage system, bids for which were received on August 25, at \$5,451. The work includes 5,151 feet of 6, 8, 10, 12 and 15-inch vitrified pipe sewers, 16 manholes, two lampholes, river crossing and disposal plant. Other bids received were: H. O. Scafer, Green Bay, \$10,241; W. F. Brunt, Hammond, Ind., \$8,689; Mulholland & Son, Kaukauna, \$7,903; E. A. Barker & Son, Melrose Park, Ill., \$5,892; F. E. Kamirski, Berlin, Wis., \$5,898; Hackworthy Construction Company, Appleton, Wis., \$12,888, and E. R. Harding, Racine, Wis., \$10,045.—W. G. Kirchoffer, of Madison, Engineer; C. W. Jackson, City Clerk.

Port Washington, Wis.—Bids were opened for constructing power plant for the water works and electric light plant, and contracts have been awarded as follows: To Nordberg Mfg. Company, Milwaukee, for engines and condensers, \$10,170; to Ft. Wayne Electric Company, Ft. Wayne, Ind., for electrical machinery, \$3,662, and to J. Ubbink, of Port Washington, for chimney, 90 feet high by 3 feet 10 inches x 3 feet 10 inches, \$1,560, and same contractor for power house extension, 42 x 39 feet, \$4,269; boilers not yet awarded.—W. T. Kirchoffer, Madison, Engineer.

Kincardine, Ont., Can.—The Township Council has awarded the contract for constructing a reinforced-concrete bridge flat arch, 25-foot span, over the river on the seventh concession of the township of Kincardine, to C. S. Wood, of Bruce, Tiverton.

The contract for constructing two reinforced-concrete flat arch bridges, one on the fourth concession of Bruce and one on the sixth concession of Bruce, near Underwood, has also been awarded to Mr. Wood.

Westville, N. S.—McNeil Bros. have been awarded contracts for bridge work as follows: One 80-foot span over the Segas River; one span over Green River; one span over Grand River; one span over Baker River, and one span over Four-Mile Brook. The latter is a 13-deck girder, spans carried on six towers, 60 feet high.

INCORPORATIONS

Chatsworth Electric Company, Chatsworth, Ill., to furnish light, heat and power; capital, \$25,000. Incorporators: L. A. Walter, J. B. Grotevant and G. W. McCabe, of Chatsworth.

Citizens' Water and Power Company, Cheyenne, Wyo., to operate in Teller and El Paso counties; capital, \$1,000,000. Incorporators: G. A. Taff, G. M. McMahon and R. L. Holland.

Indiana Lighting Company, Lafayette, Ind., to furnish light and power to Indiana cities from gas producing stations; capital, \$4,500,000. Incorporators: Saul T. Murdock, General Manager, and others.

New Jersey Rapid Transit Company, Paterson, N. J., to construct a railroad from the city of Paterson to Suffern, N. Y., a distance of 14 miles; capital, \$1,000,000. Incorporators: Thomas J. Maloney, of Jersey City; Henry M. Parmalee, Herbert Bogart, Charles D. Cook and Guy H. Pierce, all of Paterson; M. R. McAdoo, Montclair, and George M. Dunlap, Spring Valley, N. Y.

St. Andrews Ice and Power Company, St. Andrews, Fla.; capital, \$25,000. Incorporators: J. H. Drummond, President; F. J. McSweeney, Secretary and Treasurer.

United States Street Sweeper Company, New York, N. Y.; to manufacture and operate street sweeping machines; capital, \$100,000. Incorporators: James P. Callender, Charles H. McCarthy, J. Egbert Peters, 32 Broadway, New York.

PATENT CLAIMS

896,237. Distance-Lighting Gas Burner Valve. Richard N. Oakman, Brooklyn, N. Y. Serial No. 391,400.

The combination with a casing having a gas conduit, of a transverse plug-valve having a longitudinal cylindrical chamber and transverse ports, a piston and means for moving the same back and forth in said chamber, to open and close the conduit while the plug-valve is in the open position.

896,274. Arc-Lamp. Guy N. Chamberlin, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Serial No. 348,884.

In an arc lamp, an arc-inclosing globe, means for supplying air to said globe, and means actuated by the feeding movement of an electrode for automatically varying the rate at which air is supplied during the operation of the lamp.

896,295. Fire-Ladder. Albert L. Haines, Fort Fairfield, Me. Serial No. 373,810.

A ladder consisting of a series of links the ends of which are looped, said links passing one through the other successively, whereby each link is interlocked with the next succeeding link; and rungs an end of which passes through a link of each pair of successive links and lies above the looped end of the upper link and below the looped end of the lower link of said pair of links; the upper end of the lower link lying above the lower end of the upper link of said pair of links where the rung engages said links.

896,325. Wood-Preserving Composition. Hilyard Stokes, Beverly, N. J., assignor of one-third to Jonathan E. Wright, Philadelphia, Pa., and one-third to Mitchell B. Perkins, Beverly, N. J. Serial No. 416,484.

The herein described composition of matter for the preservation of wood and other fibrous material consisting of a mixture of a soda soap derived from fish oil and lard and combined with crude mineral oil in excess. The herein described composition of matter for the preservation of wood and other fibrous materials, consisting of a mixture of a soda soap derived from fish oil 7.4 parts, lard 14.8 parts and sal soda 3.8 parts, combined with 74 parts by volume of crude mineral oil.

896,341. Filament for Incandescent Lamps. Willis R. Whitney, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Serial No. 232,618.

A filament for incandescent lamps formed substantially of a nitrid of a rare earth metal. A filament for incandescent lamps formed of nitrid of cerium. An illuminant formed substantially of a nitrid of an element having a high affinity for nitrogen at high temperatures.

896,417. Arc-Lamp. Ralph Scott, Wilkes-Barre, Pa., assignor to Scott Electrical Company, a Corporation of Maine. Serial No. 263,248.

In an arc lamp, a pair of vertical rods or guides, a carbon fixed to one of said guides, a second carbon arranged to have a vertical movement on said guides, a clutch surrounding the movable carbon, a magnet supported by said guides and having a central depending pole and a pair of additional salient poles adjacent thereto and diverging therefrom, an armature having a hole surrounding said central pole and moving toward the narrow portion between said poles, and connections between said armature and said clutch.

896,643. Road-Sprinkling Apparatus. Bernard Kortas, Chicago, Ill., assignor to Jens Sundby, Chicago, Ill. Serial No. 388,178.

In a device of the class described, a spraying head comprising a substantially cylindrical shell having a circumferentially disposed discharge opening therein, a water supply pipe secured to one end thereof and a suitable head closing the opposite end in combination with a cylindrical lining therein, said lining being cut away to form ways for a valve, a valve mounted therein and adapted to move longitudinally of said shell to vary the width of said discharge opening, another valve arranged within said lining and having an angularly disposed edge adapted to be moved across said discharge opening to vary the length thereof and suitable means for operating said valves, substantially as described.

896,698. Arc-Lamp. Charles P. Steinmetz and John T. H. Dempster, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Serial No. 181,328.

In an arc lamp, an electrode arranged to be moved in one direction by gravity, electromagnetic means for moving the electrode in the opposite direction, and means for causing the electrode when moved under the action of gravity to travel through a predetermined fixed distance.

PROPOSALS

WATER WORKS

Notice to Contractors

Passaic, N. J.

By direction of the City Council of the City of Passaic, New Jersey, proposals are hereby invited for:

First—Distributing, laying, etc., about thirty-seven (37) miles of six (6) inch to twenty (20) inch pipes, hydrants, gate valves, specials, etc.

Second—Furnishing and delivering the said pipes, hydrants, gate valves, specials, etc.

Third—Furnishing a new water supply from three (3) million gallons per day up to twelve (12) million gallons per day, to be taken from wells or surface streams.

All proposals must be in conformity with the forms of proposal and specifications adopted by the Committee on Water Supply, of which printed copies may be obtained at the office of the City Clerk or the City Surveyor of said city.

The city reserves the right to reject any and all proposals. All proposals must be submitted in a sealed envelope addressed to the Committee on Water Supply, care of the City Clerk, on or before the thirtieth day of October, 1908, at 8 o'clock P.M.

A certified check for one thousand dollars to the order of the City Treasurer of the City of Passaic, N. J., must accompany each bid, to be forfeited to the city if the bidder in the event his proposal is accepted, shall not within ten days thereafter enter into proper contract for carrying out his proposal.

GEORGE K. ROSE,

JOSEPH SPITZ,

HERMAN FRIEND,

Committee on Water Supply of the City Council of the City of Passaic, N. J.
(12-18)

BRICK PAVEMENT

Tomah, Wis.

Notice is hereby given that sealed bids will be opened and considered by the Committee of Public Works of the City of Tomah, Monroe County, Wisconsin, at 2 o'clock P.M., on the 19th day of September, 1908, in the Council Chamber at the City Hall of said city, for the construction of a brick pavement and appurtenances in said city, all to be constructed in accordance with the plans and specifications adopted by the City Council, and on file in the office of the City Clerk, Tomah, Wis., said offices being in Council Chamber in said city.

All bids must be on file with the City Clerk by 1 o'clock, P.M., on said day, and all bidders must enclose with their respective bids a contract for said work, duly executed on the part of the bidder, according to form of contract now on file at said office of City Clerk, Tomah, Wis.; also a duly executed bond of bidder, for \$1,000, conditioned on the faithful performance of said contract, should the proposal of bidder be accepted by city, and contract entered into, with two sureties, both residents and freeholders in the State of Wisconsin, who shall both justify in amount of \$1,000.

Forms of proposal, contract and bond will be furnished bidders by City Clerk.

(Signed) R. E. KYLE,
Attest: W. E. BARNHART,
D. J. ALLER, GEO. SCHULTZ,
City Clerk. Com. of Public Works.

DAM AND RESERVOIR

Cimarron, N. M.

Bids are wanted for the construction of a large rock fill and reinforced concrete dam and reservoir in Colfax County, New Mexico. For plans and specifications address

E. H. FISHER,
Cimarron, N. M.

MECHANICAL FILTER PLANT

Cohoes, N. Y.

The Board of Water Commissioners of Cohoes, N. Y., have decided upon November 2, 1908, as the final date for the filing of plans and specifications with approximate estimate of the cost of a mechanical filter plant for the City of Cohoes, N. Y.

Plans must be on file at the office of the Water Commissioners on or before the above mentioned date.

H. L. SHAVER, Pres.

ARTESIAN WELL

Harrisonburg, La.

The Police Jury of Catahoula Parish will receive sealed bids until noon October 5, 1908, for a four-inch artesian well. The Jury reserves the right to reject any or all bids. Bids to be sent to Clerk of Police Jury, Harrisonburg, La.

SPECIAL NOTICE

The City of Tyler, Texas, presents an inviting field for a Street Railway. Anyone interested in that line would do well to write the Mayor. Correspondence solicited.
JNO. H. BONNER, Mayor.
(9-10-11-12-13)

Civil Service Examinations

Hydrographic Draughtsman.—The United States Civil Service Commission announce an examination, October 7-8, to fill a vacancy in the Coast and Geodetic Survey, Department of Commerce and Labor, at \$900 per annum. Application Form 1312.

Draughtsmen.—The New York State Civil Service Commission will hold examinations, on September 26, 1908, for the following positions: Bridge Draughtsman, \$1,200 to \$1,500; Junior Bridge Draughtsman, \$900 to \$1,200; Superintendent of Publication and Compilation, Public Service Commission, Second District, \$2,000. The last day for filing applications for these positions is September 19. Application forms for any of these examinations may be obtained by postal-card request to Charles S. Fowler, Chief Examiner of the Commission, at Albany.

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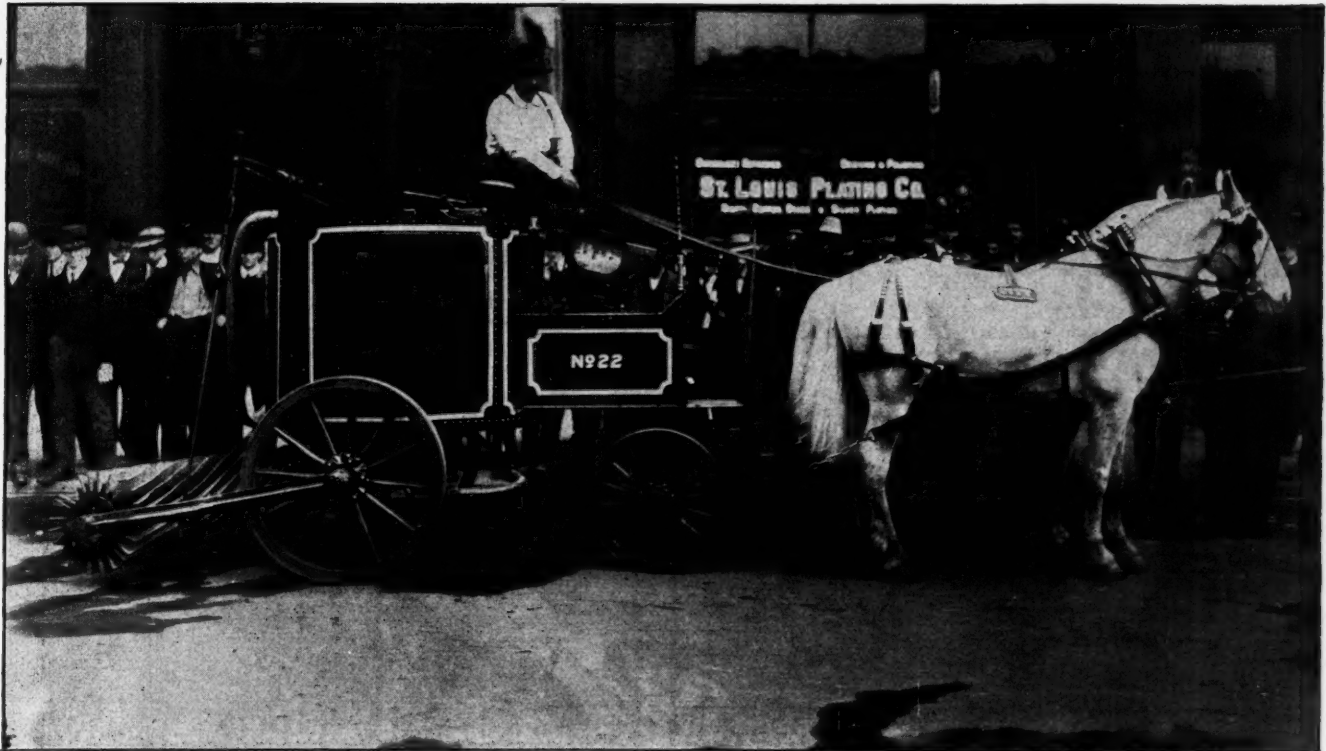
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The Squeegee in St. Louis

After a month's test, Commissioner Travilla states that this machine (the Kindling Street Washing Machine) not only does better work on smooth pavements than did the flusher or machine sweeper, but it also saves about 40 per cent. of the cost of cleaning the streets. — (Extract from "Street Cleaning in St. Louis," by Charles Claude Casey, in the *Municipal Journal and Engineer*, June 10, 1908.)

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The experience of a quarter of a century has convinced the members of the Association that honesty and painstaking care, in every detail in the construction of brick streets, do more than all other influences combined toward inducing property owners and city officials to build more brick streets. In view of this fact, this Association is glad to offer its strong support and hearty co-operation to any contractor who can show satisfactory proof of his ability and purpose to do nothing but first-class work, and who can also show that he is prompt in meeting his financial obligations. Therefore we cordially invite every American Paving Contractor, who STANDS ONLY FOR GOOD WORK AND PROMPT PAY, to file with the office of the Corresponding Secretary full information as to his ability and disposition to come up to the high standard insisted upon by our Association.

Upon application, we mail, free of charge, to any address in the United States or Canada, full specifications, which, carefully followed, will result in a street that will convince any fair observer that a brick street has the advantage, considered from every point of view, over any other form of improved pavement.

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WILL P. BLAIR, Corresponding Sec'y
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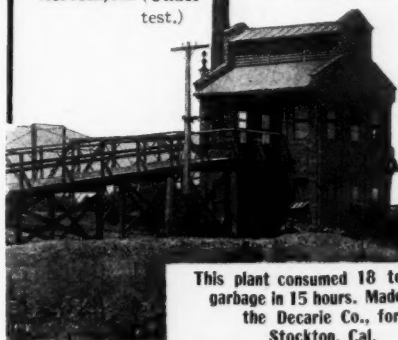
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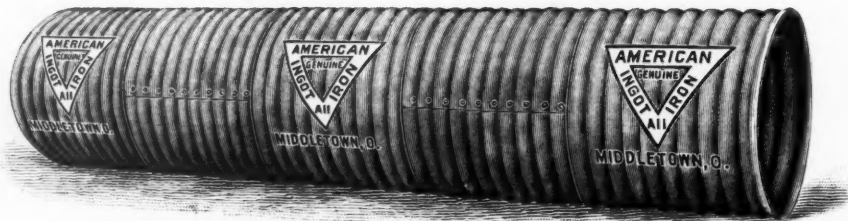
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